DCR-TRV22/TRV22E
RMT-814

SERVICE MANUAL

LEVEL 2

Ver 1.0 2003. 02

Revision History

Photo : DCR-TRV22

US Model
Canadian Model
Korea Model
Brazilian Model
DCR-TRV22
AEP Model
UK Model
North European Model
East European Model
Chinese Model
Australian Model
DCR-TRV22E
E Model
Hong Kong Model
Tourist Model
DCR-TRV22/TRV22E

Z MECHANISM

Link

SPECIFICATIONS	BLOCK DIAGRAMS	PRINTED WIRING BOARDS
SERVICE NOTE	FRAME SCHEMATIC DIAGRAMS	REPAIR PARTS LIST
DISASSEMBLY	SCHEMATIC DIAGRAMS	

- For INSTRUCTION MANUAL, refer to SERVICE MANUAL, LEVEL 1 (987622241.pdf).
- For MECHANISM ADJUSTMENTS, refer to the “DV MECHANICAL ADJUSTMENT MANUAL Ⅶ Z MECHANISM ” (9-876-210-11).
- Reference No. search on printed wiring boards is available.

On the VC-312 board

This service manual provides the information that is premised the circuit board replacement service and not intended repair inside the VC-312 board.

Therefore, schematic diagram, printed wiring board, waveforms, mounted parts location and electrical parts list of the VC-312 board are not shown.

The following pages are not shown.

Schematic diagram	Pages 4-37 to 4-64
Printed wiring board	Pages 4-85 to 4-88
Waveforms	Pages 4-91 to 4-92
Mounted parts location	Page 4-95
Electrical parts list	Pages 5-21 to 5-26

Mini DV Digital Video Cassette

DIGITAL VIDEO CAMERA RECORDER

SONY®

COVER

SPECIFICATIONS

Video camera recorder

System

Video recording system
2 rotary heads
Helical scanning system

Audio recording system
Rotary heads, PCM system
Quantization: 12 bits (Fs 32 kHz, stereo 1, stereo 2), 16 bits (Fs 48 kHz, stereo)

Video signal
DCR-TRV22:
NTSC color, EIA standards
DCR-TRV22E:
PAL colour, CCIR standards

Usable cassette
Mini DV cassette with the Mini DV mark printed

Tape speed
SP: Approx. 18.81 mm/s
LP: Approx. 12.56 mm/s

Recording/playback time (using cassette DVM60)
SP: 1 hour
LP: 1.5 hours

Fastforward/rewind time (using cassette DVM60)
Approx. 2 min. and 40 seconds

Viewfinder
Electric viewfinder (colour)

Image device
4.5 mm (1/4 type)
CCD (Charge Coupled Device)
Gross:
DCR-TRV22: Approx. 680 000 pixels
DCR-TRV22E: Approx. 800 000 pixels
Effective (still):
DCR-TRV22: Approx. 340 000 pixels
Effective (moving):
DCR-TRV22E: Approx. 400 000 pixels

Lens
Carl Zeiss Vario-Sonnar
Combined power zoom lens
Filter diameter: 30 mm (1 3/16 in)
10× (Optical), 120× (Digital)
F = 1.7 – 2.2

Focal length
3.3 – 33 mm (5/32 – 1 5/16 in.)[1]
42 – 420 mm (1 11/16 – 16 5/8 in.)[2]
42 – 420 mm (1 11/16 – 16 5/8 in.)[3]

[1] When converted to a 35 mm still camera
[2] In CAMERA mode
[3] In MEMORY mode

Colour temperature
Auto, HOLD, INDOOR (3 200 K), OUTDOOR (5 800 K)

Minimum illumination
5 lx (lux) (F1.7)
0 lx (lux) (in the NightShot mode)*

* Objects unable to be seen due to the dark can be shot with infrared lighting.

Input/Output connectors

S video input/output
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 Ω (ohms), unbalanced
Chrominance signal:
DCR-TRV22: 0.286 Vp-p,
DCR-TRV22E: 0.3 Vp-p,
75 Ω (ohms), unbalanced

Audio/Video input/output
AV MINI JACK, 1 Vp-p, 75 Ω (ohms), unbalanced
327 mV, (at output impedance more than 47 kΩ (kilohms))
Output impedance with less than 2.2 kΩ (kilohms)/Stereo minijack (ø 3.5 mm)
Input impedance more than 47 kΩ (kilohms)

DV input/output
4-pin connector

Headphone jack
Stereo minijack (ø 3.5 mm)

LANC jack
Stereo mini-minijack (ø 2.5 mm)

USB jack
mini-B

MIC jack
Minijack, 0.388 mV low impedance with 2.5 to 3.0 V DC, output impedance 6.8 kΩ (kilohms) (ø 3.5 mm)
Stereo type

LCD screen

Picture
6.2 cm (2.5 type)
50.3 × 37.4mm (2 × 1 1/2in.)

Total dot number
123 200 (560 × 220)

General

Power requirements
7.2 V (battery pack)
8.4 V (AC Adaptor)

Average power consumption (when using the battery pack)
3.3 W[1]
2.5 W[2]

[1] During camera recording using LCD
[2] Viewfinder

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to + 60°C (–4°F to + 140°F)

Dimensions (approx.)
71 × 90 × 112 mm
(2 7/8 × 3 5/8 × 4 1/2 in.) (w/h/d)

Mass (approx.)
Main unit only
530 g (1 lb 2 oz)
Including the rechargeable battery pack NP-FM30, cassette DVM60 and lens cap
620 g (1 lb 5 oz)

Supplied accessories
See page 3.

AC Adaptor AC-L15A/L15B

Power requirements
100 – 240 V AC, 50/60 Hz

Current consumption
0.35 – 0.18 A

Power consumption
18 W

Output voltage
DC OUT: 8.4 V, 1.5 A

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to + 60°C (–4°F to + 140°F)

Dimensions (approx.)
56 × 31 × 100 mm
(2 1/4 × 1 1/4 × 4 in.) (w/h/d)
excluding projecting parts

Mass (approx.)
190 g (6.7 oz)
excluding power cord

Rechargeable battery pack NP-FM30

Maximum output voltage
DC 8.4 V

Output voltage
DC 7.2 V

Capacity
5.0 Wh (700 mAh)

Dimensions (approx.)
38.2 · 20.5 · 55.6 mm
(1 9/16 × 13/16 × 2 1/4 in.)
(w/h/d)

Mass (approx.)
65 g (2.3 oz)

Operating temperature
0°C to 40°C (32°F to 104°F)

Type
Lithium ion

“Memory Stick”

Memory
Flash memory
8MB: MSA-8A

Operating voltage
2.7 – 3.6 V

Power consumption
Approx. 45 mA during operation mode
Approx. 130 µA during tape recording standby

Dimensions (approx.)
50 × 2.8 × 21.5 mm
(2 × 1/8 × 7/8 in.) (w/h/d)

Mass (approx.)
4 g (0.14 oz)

Design and specifications are subject to change without notice.

CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

SAFETY-RELATED COMPONENT WARNING!!

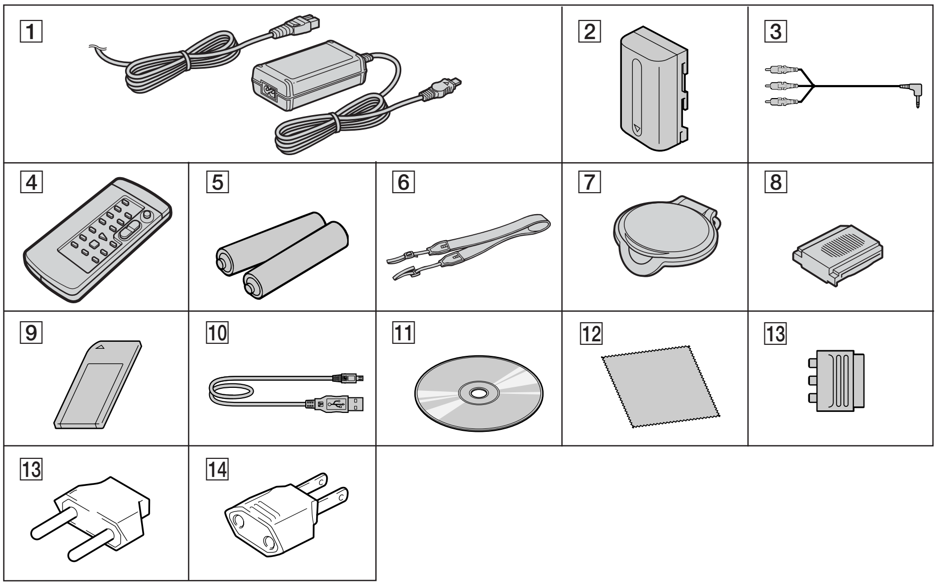
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

• SUPPLIED ACCESSORIES

Make sure that the following accessories are supplied with your camcorder.



1 AC-L15A/L15B AC Adaptor (1), Power cord (1)
2 NP-FM30 rechargeable battery pack (1)
3 A/V connecting cable (1)
4 Wireless Remote Commander (1) RMT-814
5 R6 (size AA) battery for Remote Commander (2)
6 Shoulder strap (1)
7 Lens cap (1)
8 Shoe cover (1)
9 "Memory Stick" (1)
MSA-8A
10 USB cable (1)
11 CD-ROM (USB Driver) (1)
SPVD-010 (I) TRV22:US, CND model only
SPVD-010 TRV22:E, HK, BR, JE, KR / TRV22E model only
12 Cleaning cloth (1)
13 21-pin adaptor* (1) (AEP, UK, EE, NE model only)
The models with CE mark printed on their bottom surfaces only.
14 2-pin conversion adaptor (1)
(DCR-TRV22 : JE / TRV22E : JE only)
15 2-pin conversion adaptor (1)
(DCR-TRV22 : E, HK / TRV22E : E / HK only)

- Abbreviation

CND	: Canadian model
AUS	: Australian model
JE	: Tourist model
KR	: Korea model
CH	: Chinese model
EE	: East European model
NE	: North European model
HK	: Hong Kong model

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

Unleaded solder

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

LF : LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

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Printed wiring board of the VC-312 board are not shown.
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SECTION 1
SERVICE NOTE

1-1. SERVICE NOTE

1. POWER SUPPLY DURING REPAIRS

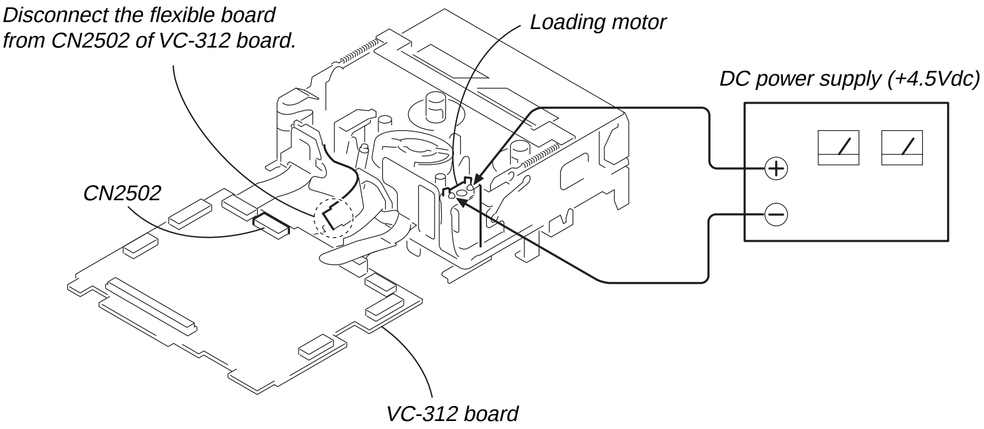
In this unit, about 10 seconds after power is supplied to the battery terminal using the regulated power supply (8.4V), the power is shut off so that the unit cannot operate.
This following two methods are available to prevent this. Take note of which to use during repairs.

Method 1.
Use the AC power adaptor (AC-L10, AC-VQ800 etc.).

Method 2.
Connect the servicing remote commander RM-95 (J-6082-053-B) to the LANC jack, and set the commander switch to the "ADJ" side.

2. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

① Refer to 2-2 to remove the cabinet (R) cover (39E).
② Refer to 2-3 to remove the F panel section.
③ Refer to 2-5 to remove the cabinet (R) section.
④ Refer to 2-10 to remove the BT panel/EVF section.
⑤ Refer to 2-14 to remove the VA-118 board and Lens section.
⑥ Refer to 2-16 to remove the VC-312 board and Mechanism deck.
⑦ Refer to 2-17 to remove the MD frame assembly from the VC-312 board and Mechanism deck.
⑧ Disconnect the flexible board from CN2502 of VC-312 board.
⑨ Supply +4.5V from the DC power supply to the loading motor and unload with a pressing the cassette compartment.


Disconnect the flexible board
from CN2502 of VC-312 board.
Loading motor
DC power supply (+4.5Vdc)
CN2502
VC-312 board

1-2. SELF-DIAGNOSIS FUNCTION

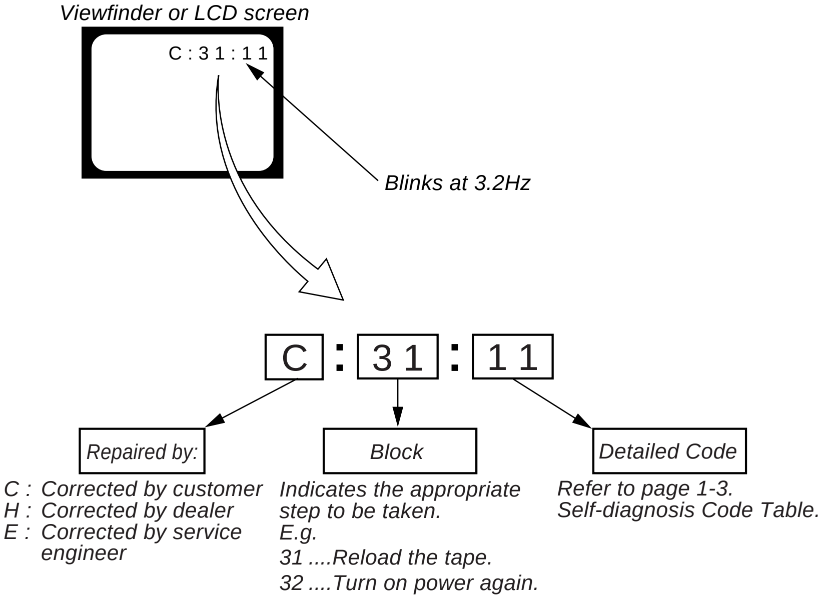
1. SELF-DIAGNOSIS FUNCTION

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder, or LCD screen what to do. This function consists of two display; self-diagnosis display and service mode display.

Details of the self-diagnosis functions are provided in the Instruction manual.

2. SELF-DIAGNOSIS DISPLAY

When problems occur while the unit is operating, the counter of the viewfinder or LCD screen consists of an alphabet and 4-digit number, which blinks at 3.2Hz. This 5-character display indicates the "repaired by:", "block" in which the problem occurred, and "detailed code" of the problem.


Viewfinder or LCD screen
C : 3 1 : 1 1
Blinks at 3.2Hz
C : 3 1 : 1 1
Repaired by:
Block
Detailed Code
C : Corrected by customer
H : Corrected by dealer
E : Corrected by service engineer
Indicates the appropriate step to be taken.
E.g.
31 ....Reload the tape.
32 ....Turn on power again.
Refer to page 1-3.
Self-diagnosis Code Table.

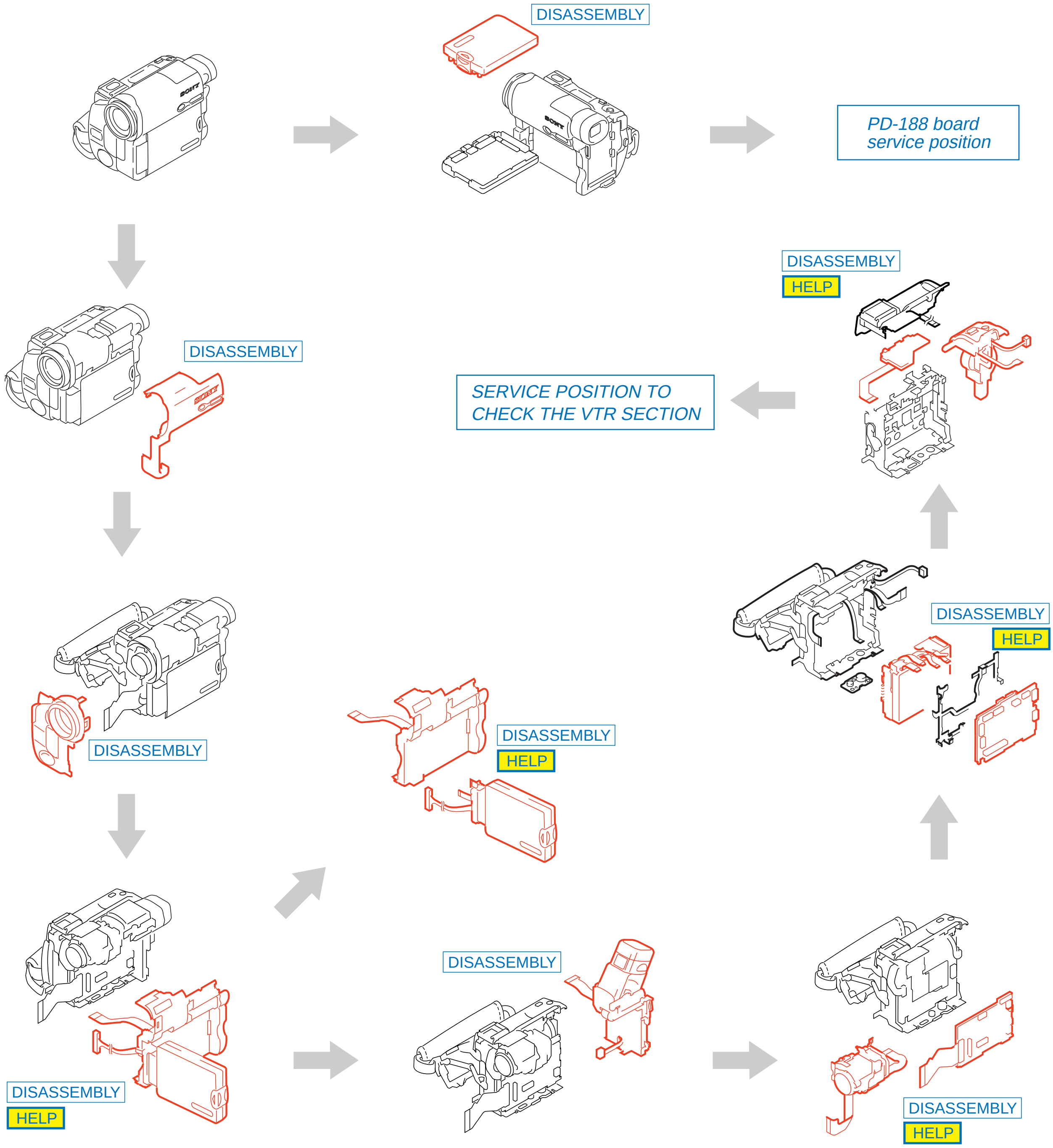
Note: The "self-diagnosis display" data will be kept even if the lithium battery (BT5201 of CK-129 board) is removed.

4. SELF-DIAGNOSIS CODE TABLE

Self-diagnosis Code					Symptom/State	Correction
Repaired by:	Block Function		Detailed Code			
C	0	4	0	0	Non-standard battery is used.	Use the info LITHIUM battery.
C	2	1	0	0	Condensation.	Remove the cassette, and insert it again after one hour.
C	2	2	0	0	Video head is dirty.	Clean with the optional cleaning cassette.
C	3	1	1	0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	1	1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	2	0	T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2	1	Winding S reel fault when counting the rest of tape.	Load the tape again, and perform operations from the beginning.
C	3	1	2	2	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	3	S reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	4	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	3	0	FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3	1	4	0	FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3	1	4	2	FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3	1	1	0	LOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	1	1	1	UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	0	T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	1	Winding S reel fault when counting the rest of tape.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	2	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	3	S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	4	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3	0	FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	0	FG fault when starting drum	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	2	FG fault during normal drum operations	Remove the battery or power cable, connect, and perform operations from the beginning.
E	6	1	0	0	Difficult to adjust focus (Cannot initialize focus.)	Inspect the lens block focus reset sensor (Pin ⑦ of CN1201 of VC-312 board) when focusing is performed when the focus buttons of the touch panel are pressed in the focus manual mode, and the focus motor drive circuit (IC1203 of VC-312 board) when the focusing is not performed.
E	6	1	1	0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the lens block zoom reset sensor (Pin ⑯ of CN1201 of VC-312 board) when zooming is performed when the zoom lens is operated and the zoom motor drive circuit (IC1203 of VC-312 board) when zooming is not performed.
E	6	2	0	0	Steadyshot function does not work well. (With pitch angular velocity sensor output stopped.)	Inspect pitch angular velocity sensor (SE5402 of MA-421 board) peripheral circuits.
E	6	2	0	1	Steadyshot function does not work well. (With yaw angular velocity sensor output stopped.)	Inspect yaw angular velocity sensor (SE5401 of A-421 board) peripheral circuits.

SECTION 2
DISASSEMBLY

The following flow chart shows the disassembly procedure.


DISASSEMBLY
PD-188 board service position
DISASSEMBLY
HELP
DISASSEMBLY
SERVICE POSITION TO CHECK THE VTR SECTION
DISASSEMBLY
HELP
DISASSEMBLY
DISASSEMBLY
HELP
DISASSEMBLY
HELP
DISASSEMBLY
DISASSEMBLY
HELP

PROCEDURE OF REMOVING MECHANISM DECK

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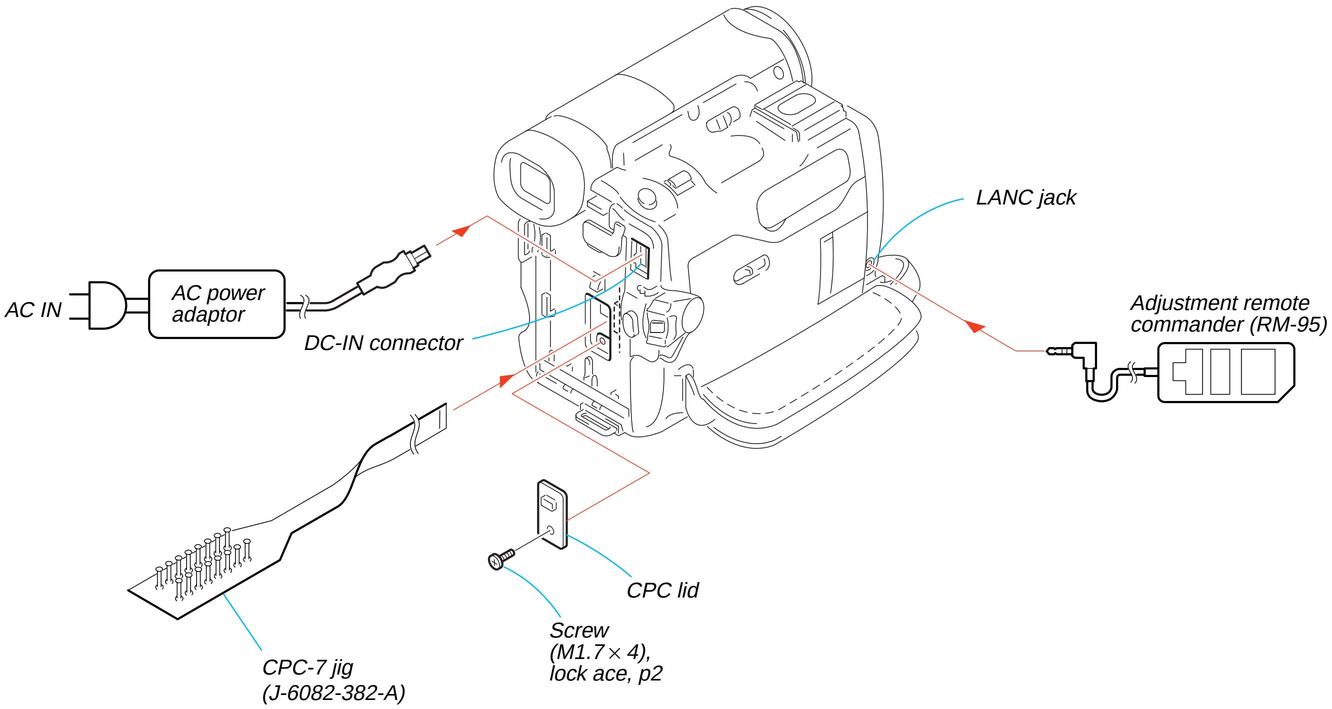
⑤ 2-14. VA-118 BOARD, LENS SECTION .... (page 2-15)
⑥ 2-16. MECHANISM DECK, VC-312 BOARD (1) .... (page 2-16)
⑦ 2-17. MECHANISM DECK, VC-312 BOARD (2) .... (page 2-17)
⑧ 2-18. CABINET (G) ASSEMBLY (40E) .... (page 2-17)
⑨ 2-19. CONTROL SWITCH BLOCK (FK-CX4000).... (page 2-18)
⑩ 2-20. JK-242 BOARD .... (page 2-18)
⑪ SERVICE POSITION TO CHECK
THE VTR SECTION... (page 2-19)

NOTE: Follow the disassembly procedure in the numerical order given.

[CONNECTION OF EQUIPMENT]

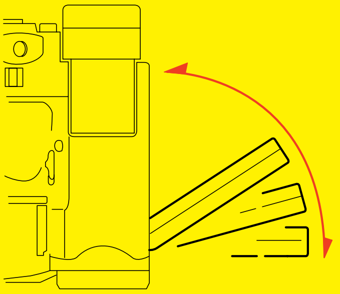

LANC jack
AC IN
AC power adaptor
DC-IN connector
Adjustment remote commander (RM-95)
CPC lid
Screw (M1.7 × 4), lock ace, p2
CPC-7 jig (J-6082-382-A)

2-1. P CABINET (C) ASSEMBLY

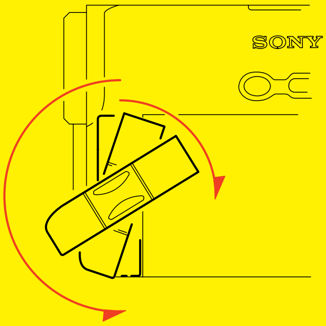
Caution

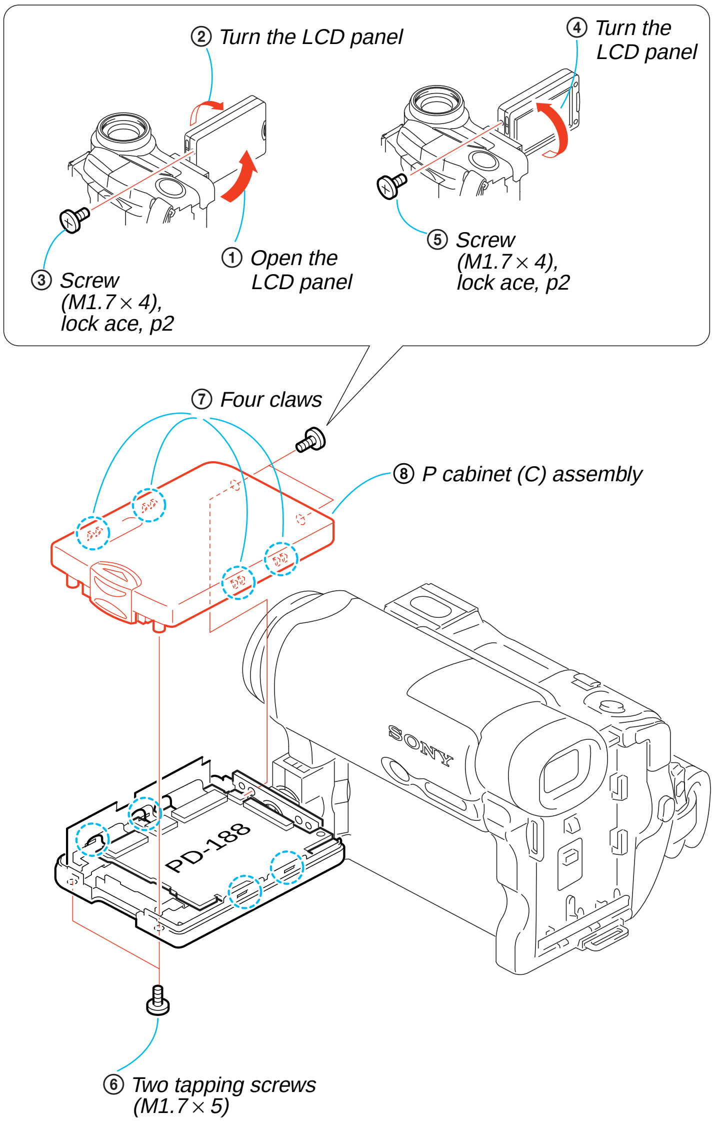
Rotation of the LCD panel has limitation due to its hinge in this model. Excessive force to rotate the LCD panel damages the hinge. Follow the precaution below.

Opening and closing of LCD panel must be performed only in the state that the LCD panel is completely in parallel (perpendicular) with the main body of the recorder.

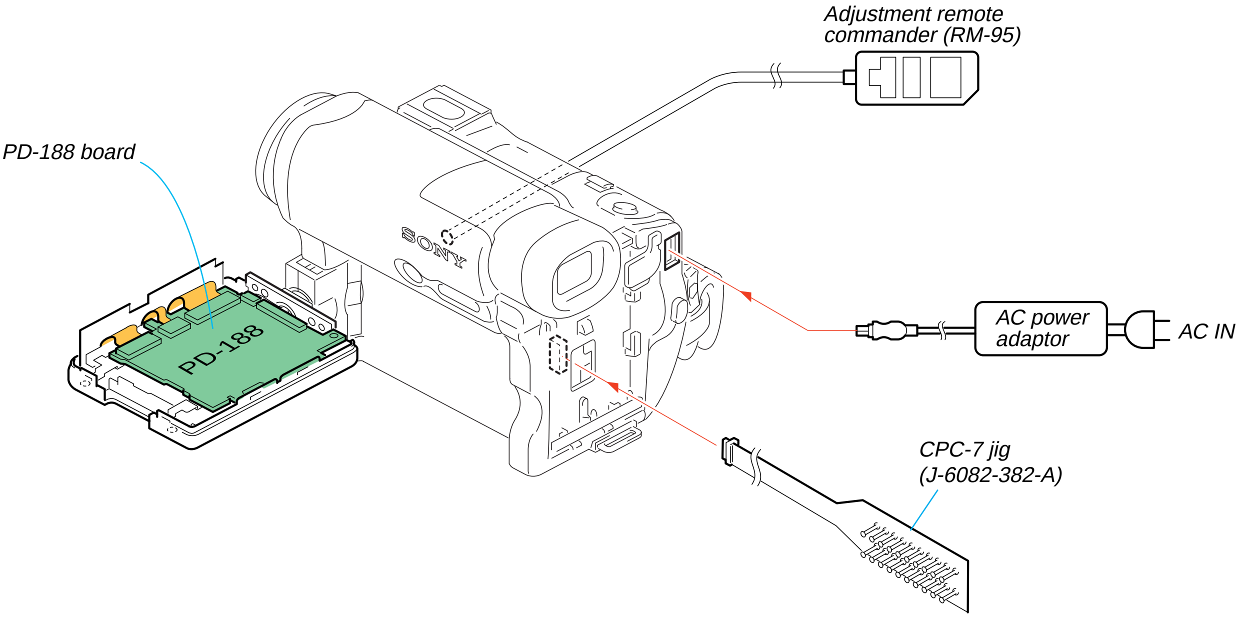


When you want to rotate the LCD panel, rotate it after the LCD panel is opened in its fully opened position.

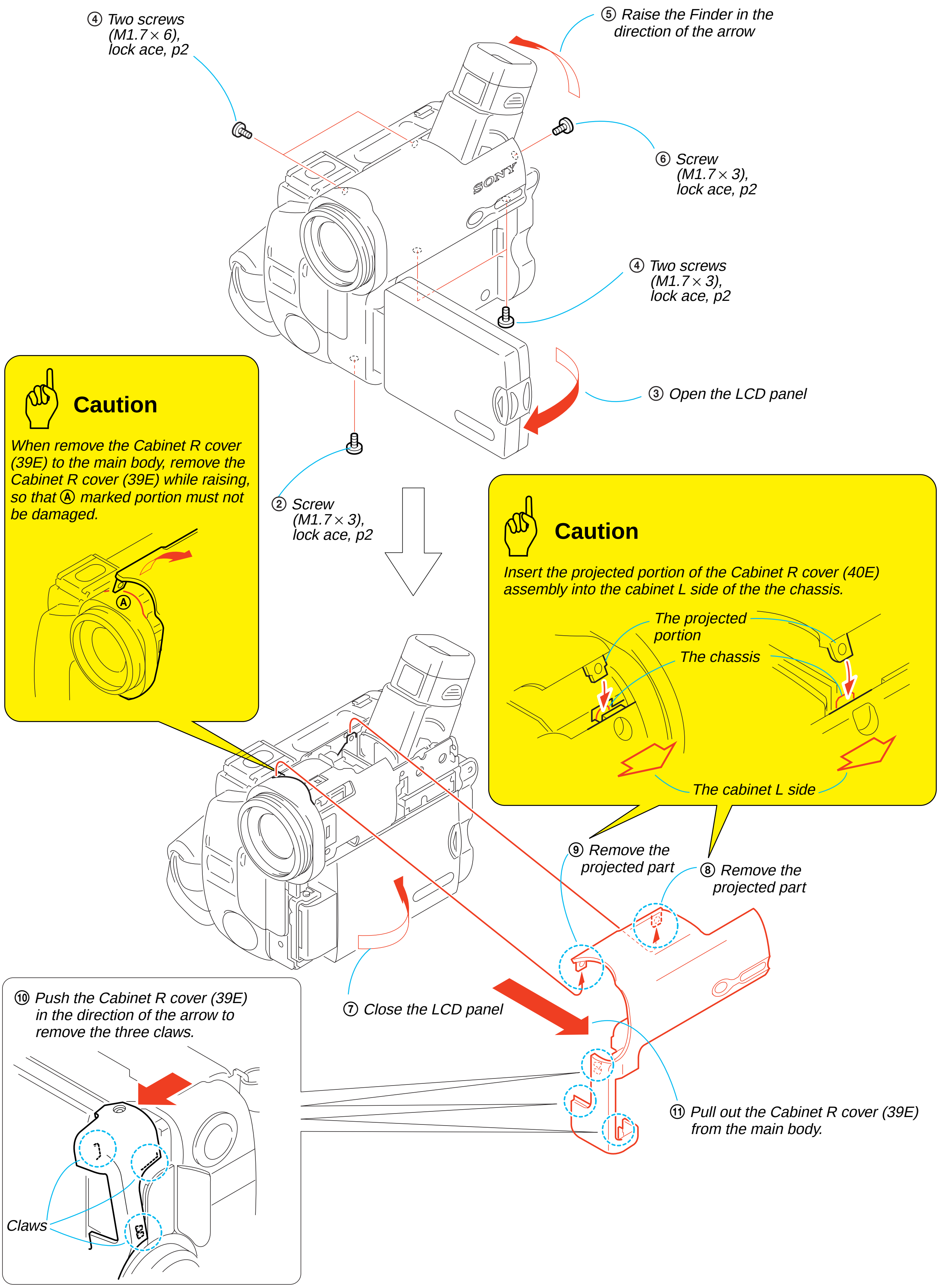



② Turn the LCD panel
④ Turn the LCD panel
① Open the LCD panel
③ Screw (M1.7 × 4), lock ace, p2
⑤ Screw (M1.7 × 4), lock ace, p2
⑦ Four claws
⑧ P cabinet (C) assembly
PD-188
SONY
⑥ Two tapping screws (M1.7 × 5)

[PD-188 BOARD SERVICE POSITION]


Adjustment remote commander (RM-95)
PD-188 board
PD-188
SONY
AC power adaptor
AC IN
CPC-7 jig (J-6082-382-A)

2-2. CABINET (R) COVER (39E) ASSEMBLY



④ Two screws
(M1.7 × 6),
lock ace, p2

⑤ Raise the Finder in the
direction of the arrow

⑥ Screw
(M1.7 × 3),
lock ace, p2

④ Two screws
(M1.7 × 3),
lock ace, p2

③ Open the LCD panel

Caution

When remove the Cabinet R cover (39E) to the main body, remove the Cabinet R cover (39E) while raising, so that Ⓐ marked portion must not be damaged.

② Screw
(M1.7 × 3),
lock ace, p2

Caution

Insert the projected portion of the Cabinet R cover (40E) assembly into the cabinet L side of the the chassis.

⑨ Remove the
projected part

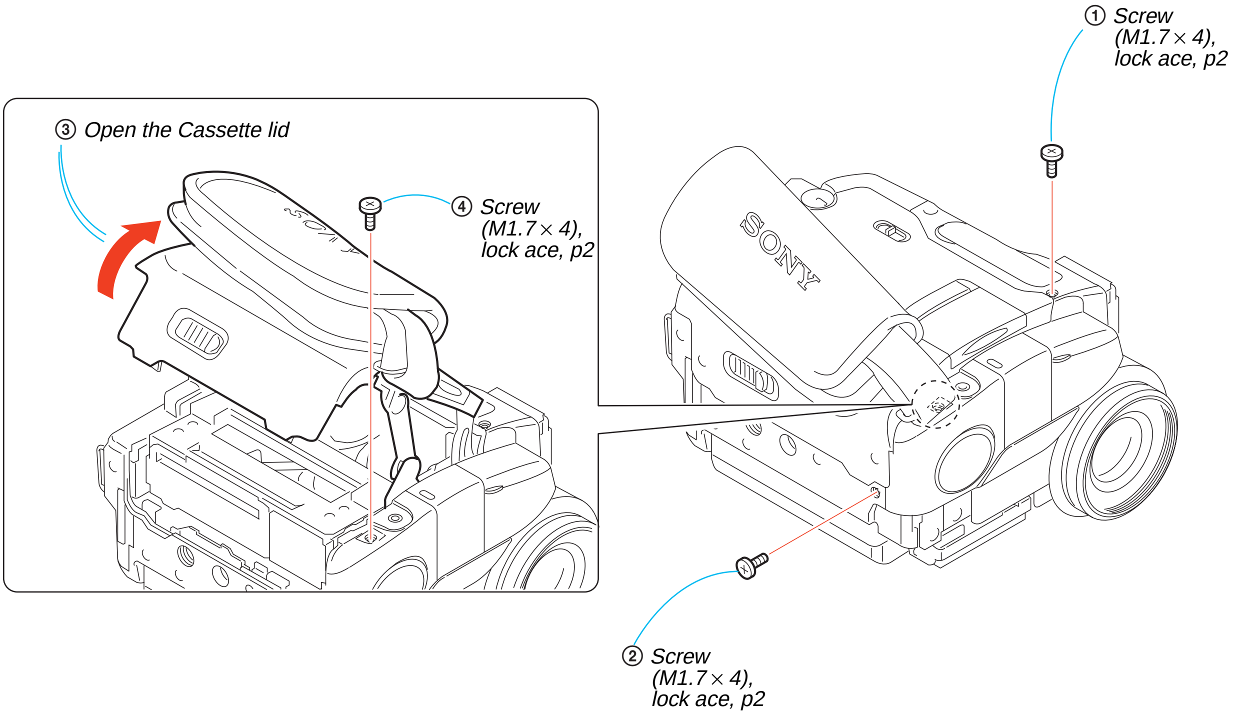
⑧ Remove the
projected part

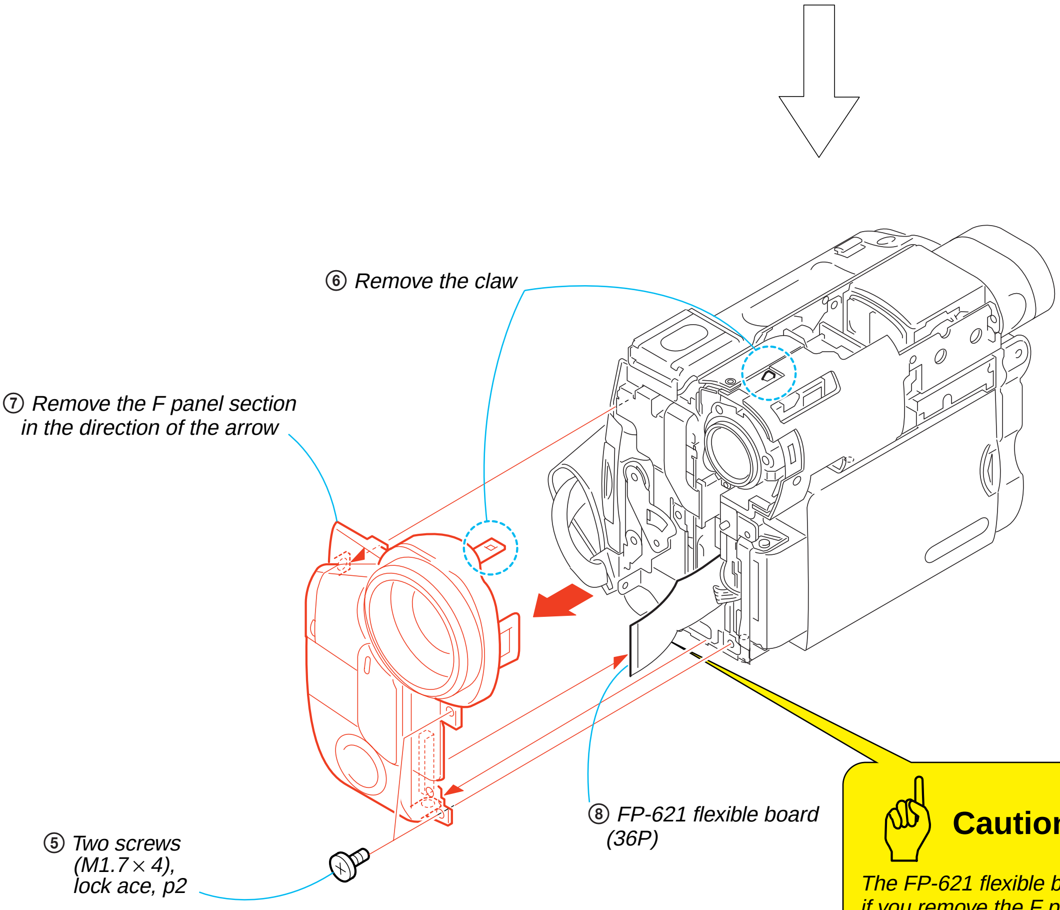
⑩ Push the Cabinet R cover (39E)
in the direction of the arrow to
remove the three claws.

⑦ Close the LCD panel

⑪ Pull out the Cabinet R cover (39E)
from the main body.

2-3. F PANEL SECTION

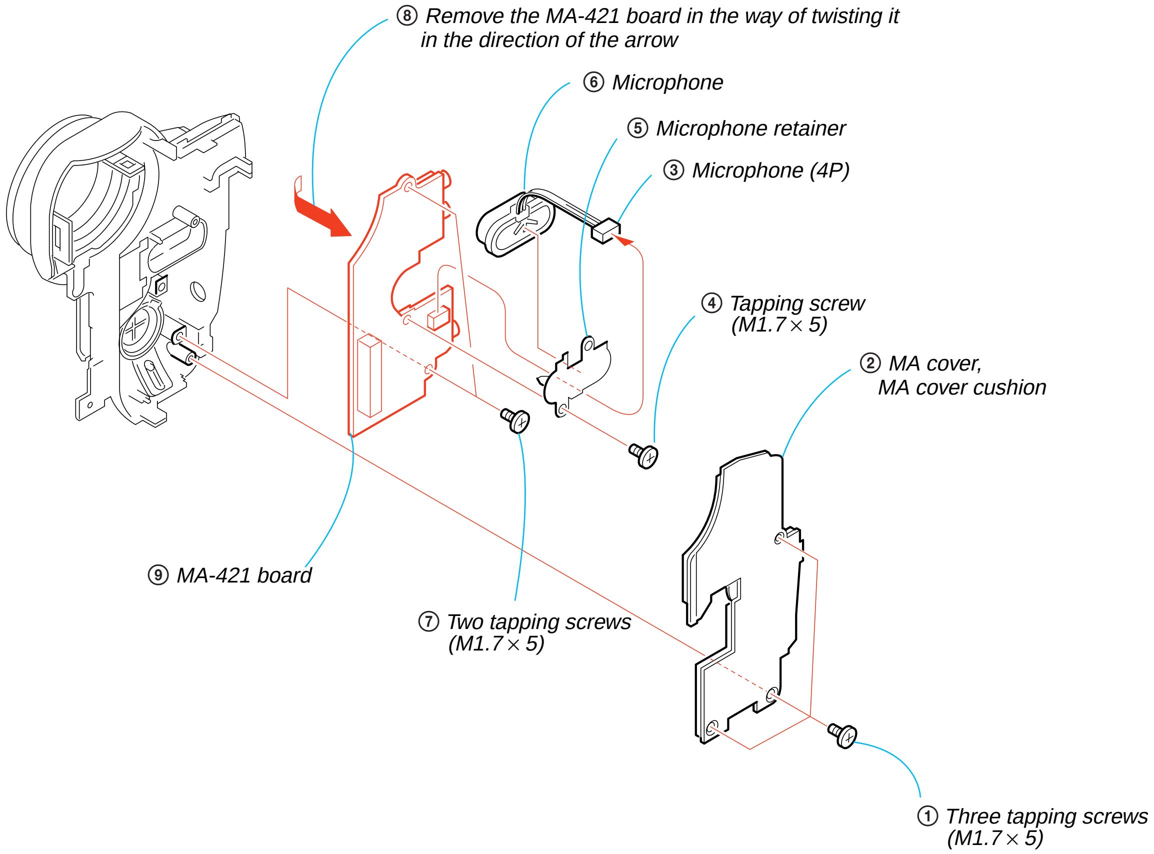

① Screw
(M1.7 × 4),
lock ace, p2
③ Open the Cassette lid
④ Screw
(M1.7 × 4),
lock ace, p2
② Screw
(M1.7 × 4),
lock ace, p2


⑥ Remove the claw
⑦ Remove the F panel section
in the direction of the arrow
⑧ FP-621 flexible board
(36P)
⑤ Two screws
(M1.7 × 4),
lock ace, p2

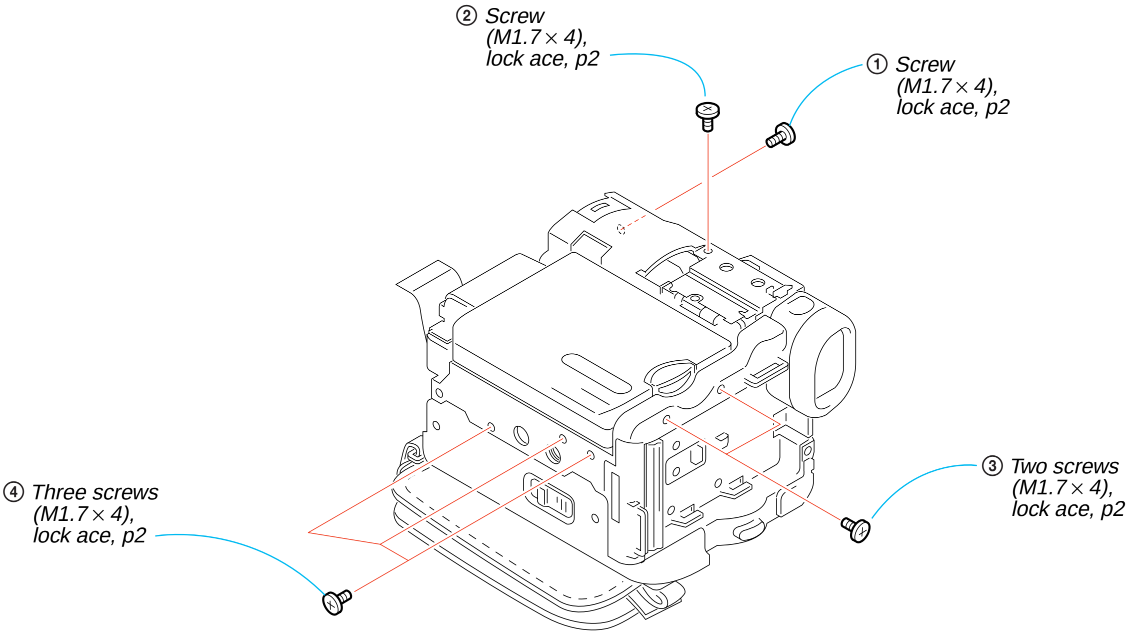
Caution

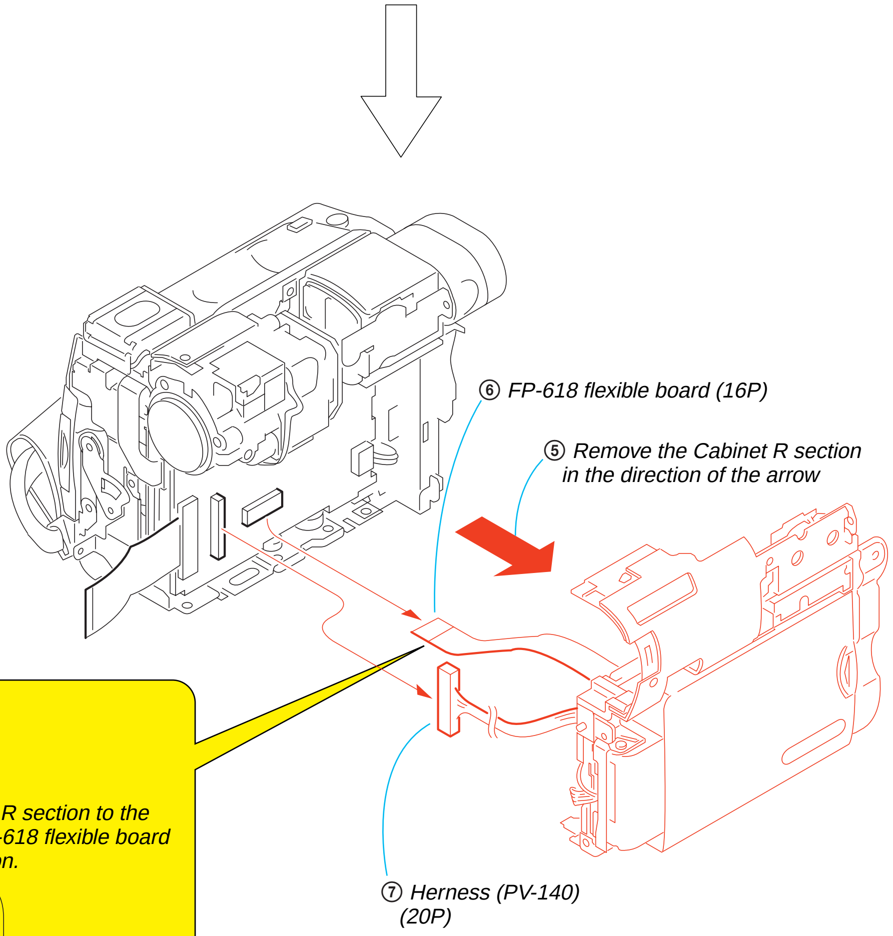
The FP-621 flexible board may be damaged if you remove the F panel section forcibly. Be very careful not to damage the flexible board.

2-4. MA-421 BOARD


⑧ Remove the MA-421 board in the way of twisting it
in the direction of the arrow
⑥ Microphone
⑤ Microphone retainer
③ Microphone (4P)
④ Tapping screw
(M1.7 × 5)
② MA cover,
MA cover cushion
⑨ MA-421 board
⑦ Two tapping screws
(M1.7 × 5)
① Three tapping screws
(M1.7 × 5)

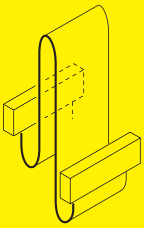
2-5. CABINET (R) SECTION


② Screw
(M1.7 × 4),
lock ace, p2
① Screw
(M1.7 × 4),
lock ace, p2
③ Two screws
(M1.7 × 4),
lock ace, p2
④ Three screws
(M1.7 × 4),
lock ace, p2

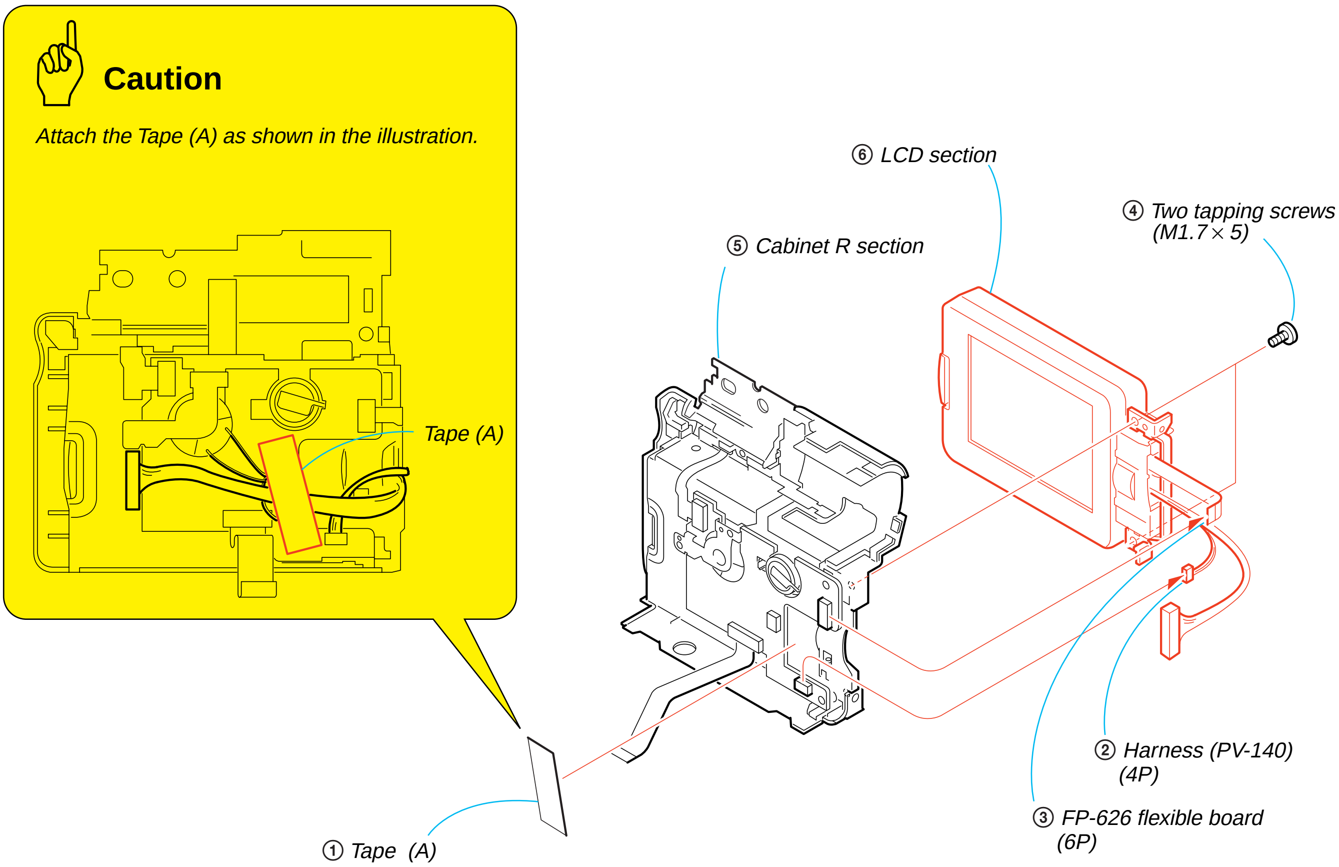

⑥ FP-618 flexible board (16P)
⑤ Remove the Cabinet R section
in the direction of the arrow
⑦ Herness (PV-140)
(20P)

Caution

When install the Cabinet R section to the main body, install the FP-618 flexible board as shown in the illustration.



2-6. LCD SECTION

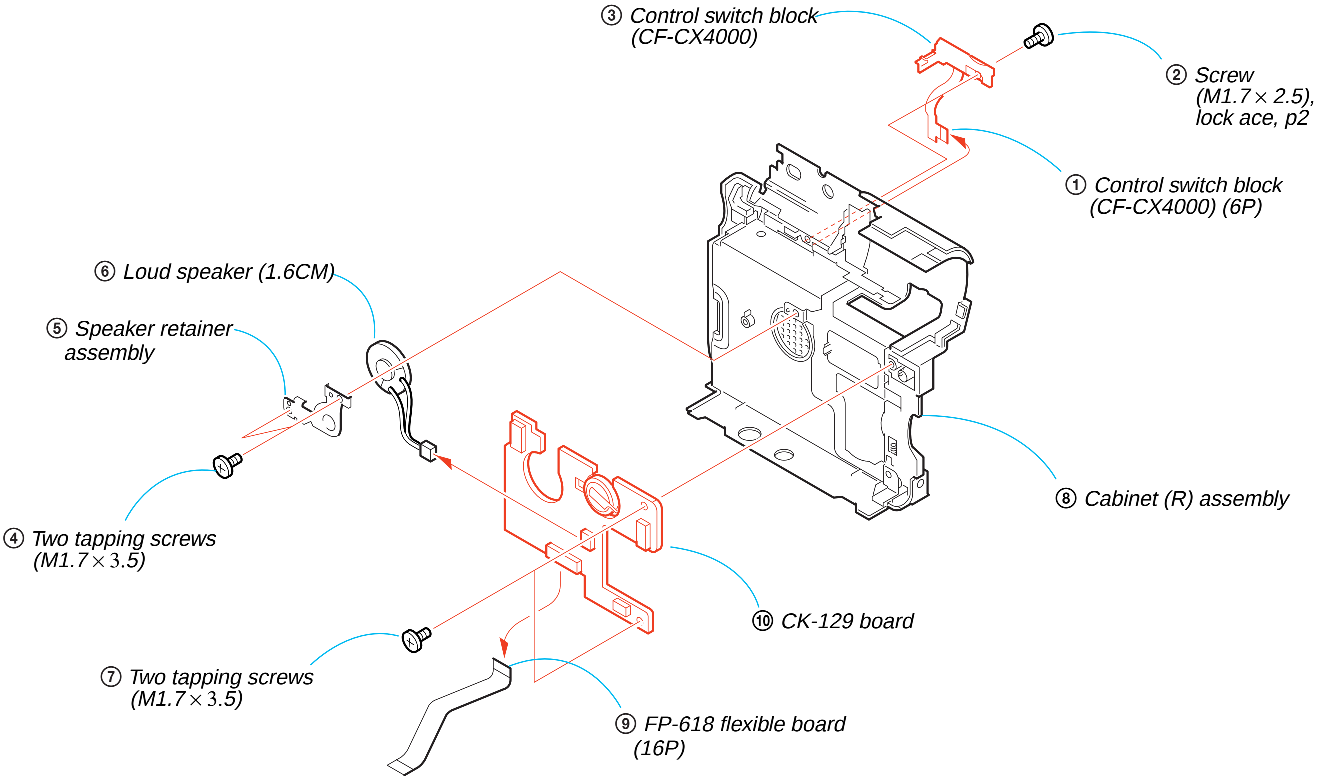


Caution

Attach the Tape (A) as shown in the illustration.

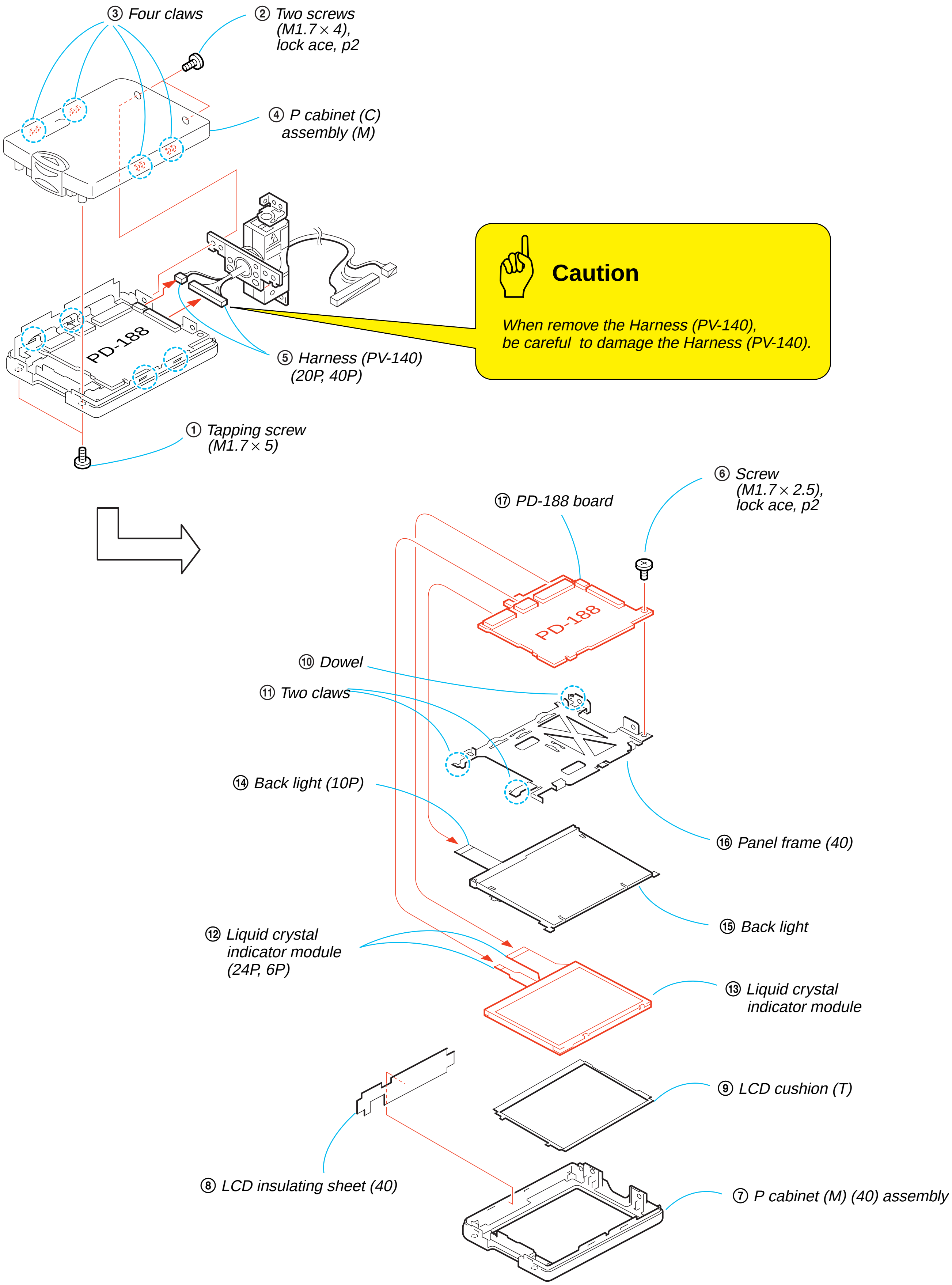
Tape (A)
⑥ LCD section
④ Two tapping screws (M1.7 × 5)
⑤ Cabinet R section
② Harness (PV-140) (4P)
③ FP-626 flexible board (6P)
① Tape (A)

2-7. CK-129 BOARD, CONTROL SWITCH BLOCK (CF-CX4000)



③ Control switch block (CF-CX4000)
② Screw (M1.7 × 2.5), lock ace, p2
① Control switch block (CF-CX4000) (6P)
⑥ Loud speaker (1.6CM)
⑤ Speaker retainer assembly
④ Two tapping screws (M1.7 × 3.5)
⑧ Cabinet (R) assembly
⑩ CK-129 board
⑦ Two tapping screws (M1.7 × 3.5)
⑨ FP-618 flexible board (16P)

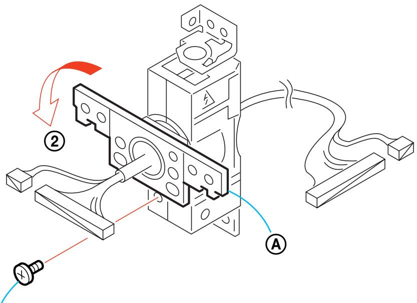
2-8. PD-188 BOARD, LCD UNIT


③ Four claws
② Two screws (M1.7 × 4), lock ace, p2
④ P cabinet (C) assembly (M)
PD-188
⑤ Harness (PV-140) (20P, 40P)
① Tapping screw (M1.7 × 5)
⑰ PD-188 board
⑥ Screw (M1.7 × 2.5), lock ace, p2
PD-188
⑩ Dowel
⑪ Two claws
⑭ Back light (10P)
⑯ Panel frame (40)
⑮ Back light
⑫ Liquid crystal indicator module (24P, 6P)
⑬ Liquid crystal indicator module
⑨ LCD cushion (T)
⑧ LCD insulating sheet (40)
⑦ P cabinet (M) (40) assembly

Caution

When remove the Harness (PV-140), be careful to damage the Harness (PV-140).

2-9. HINGE (40) ASSEMBLY



① Screw (M1.7 × 4), lock ace, p2

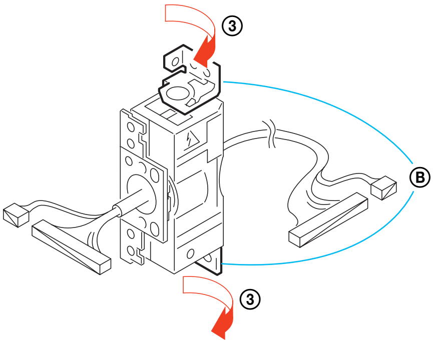
② Rotate to the "A" marked portion counterclockwise by 90 degrees

Caution

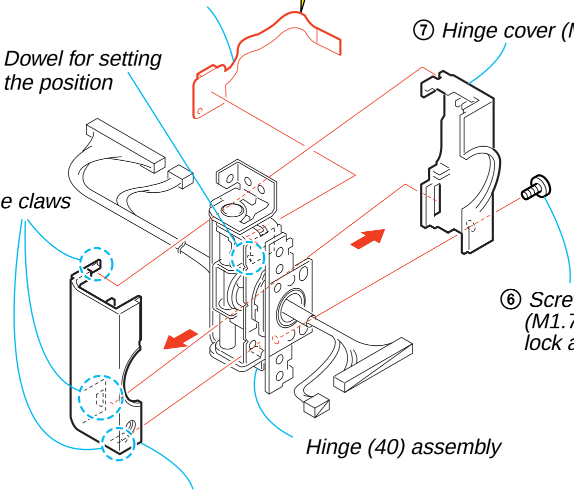
Rotation of the LCD panel has limitation due to its hinge in this model. Excessive force to rotate the LCD panel damages the hinge.
(Refer to "Caution"of 2.1 Pcabinet assembly.)

Caution

If the FP-626 flexible board is removed once, the adhesion strength of a double-sided tape decreases. Use the new FP-626 flexible board at the time of an assembly.



③ Rotate the "B" marked portion counterclockwise by 90 degrees in the direction of the arrow



⑧ Remove the FP-626 flexible board that is attached by the doble-sided tape

Dowel for setting the position

⑦ Hinge cover (M) (40)

④ Three claws

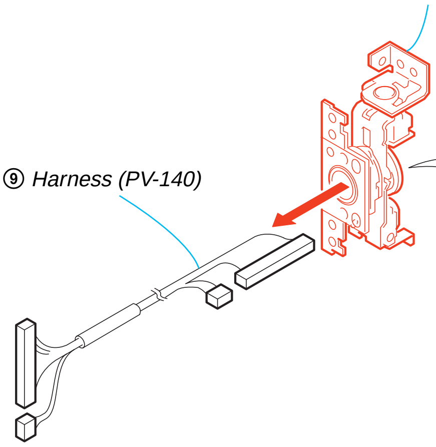
⑥ Screw (M1.7 × 4), lock ace, p2

Hinge (40) assembly

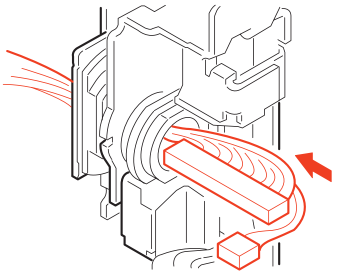
⑤ Hinge cover (C) (40)

⑩ Hinge (40) assembly

⑨ Harness (PV-140)

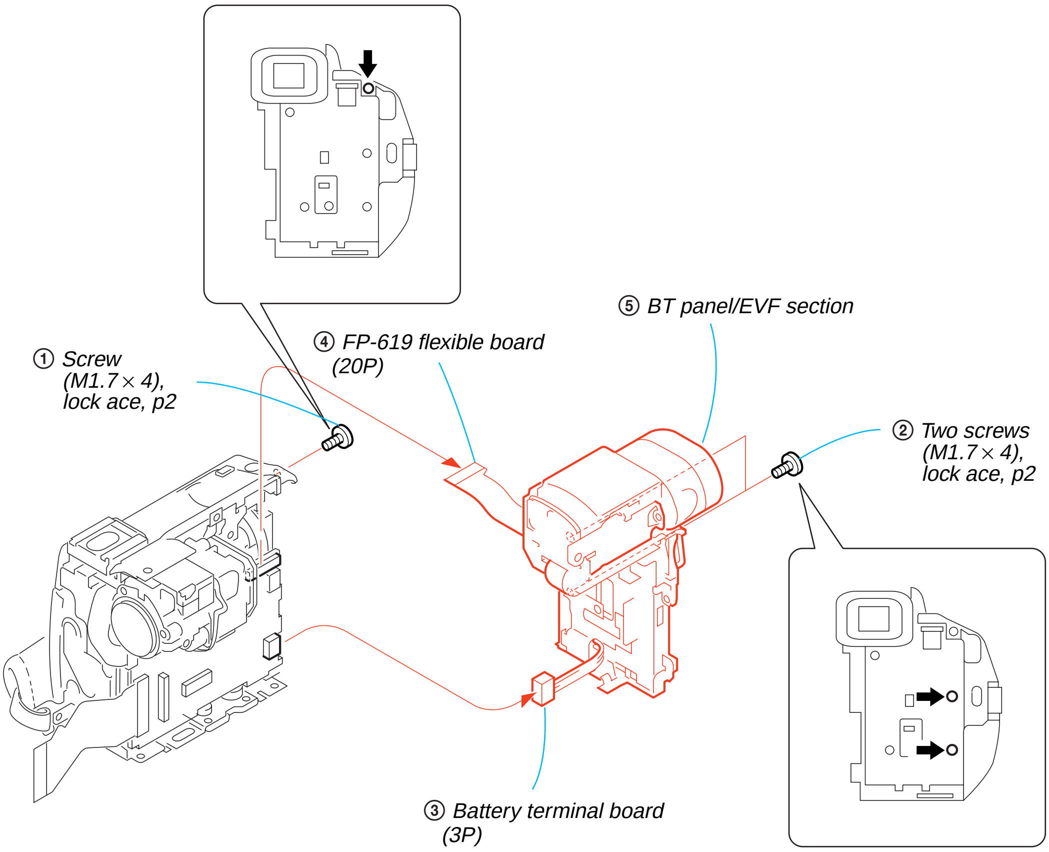


Remove the Harness (PV-140) in the direction of the arrow

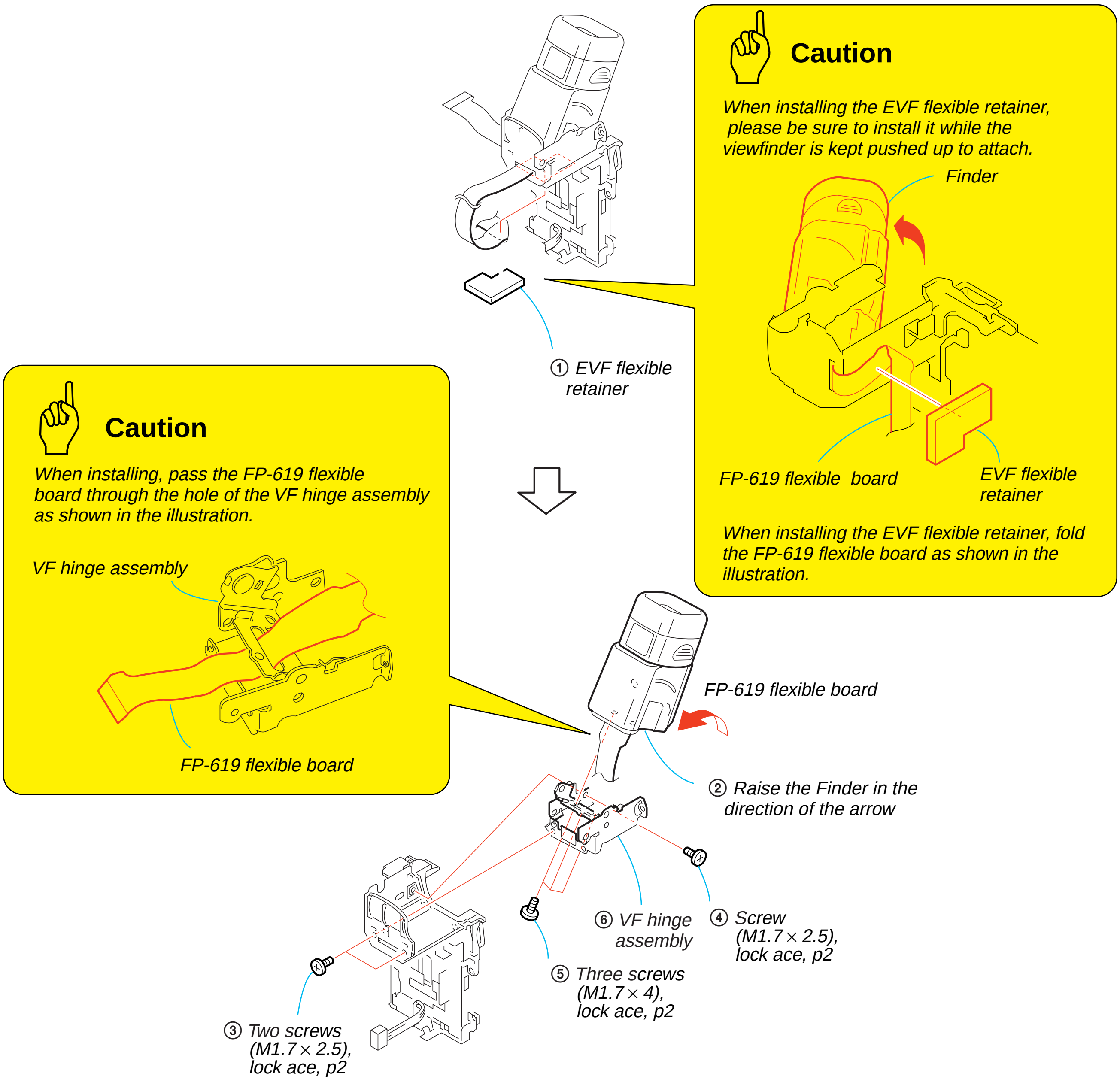


Bend the Harness (PV-140) along with connector

2-10. BT PANEL/EVF SECTION


⑤ BT panel/EVF section
④ FP-619 flexible board (20P)
① Screw (M1.7 × 4), lock ace, p2
② Two screws (M1.7 × 4), lock ace, p2
③ Battery terminal board (3P)

2-11. LB-085 BOARD (REMOVING OF THE EVF)-1



Caution

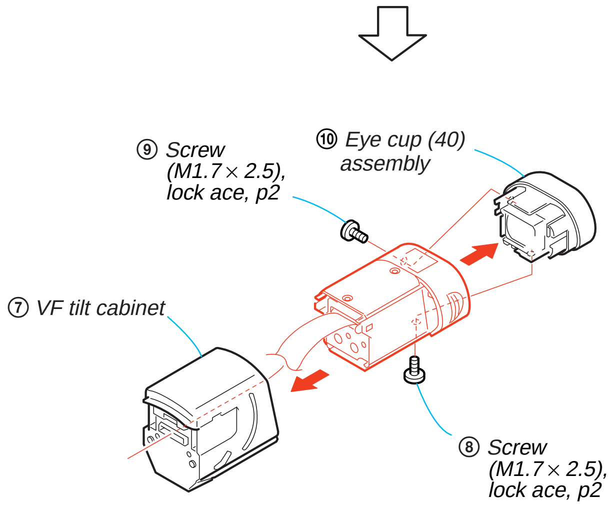
When installing the EVF flexible retainer, please be sure to install it while the viewfinder is kept pushed up to attach.

When installing the EVF flexible retainer, fold the FP-619 flexible board as shown in the illustration.

Caution

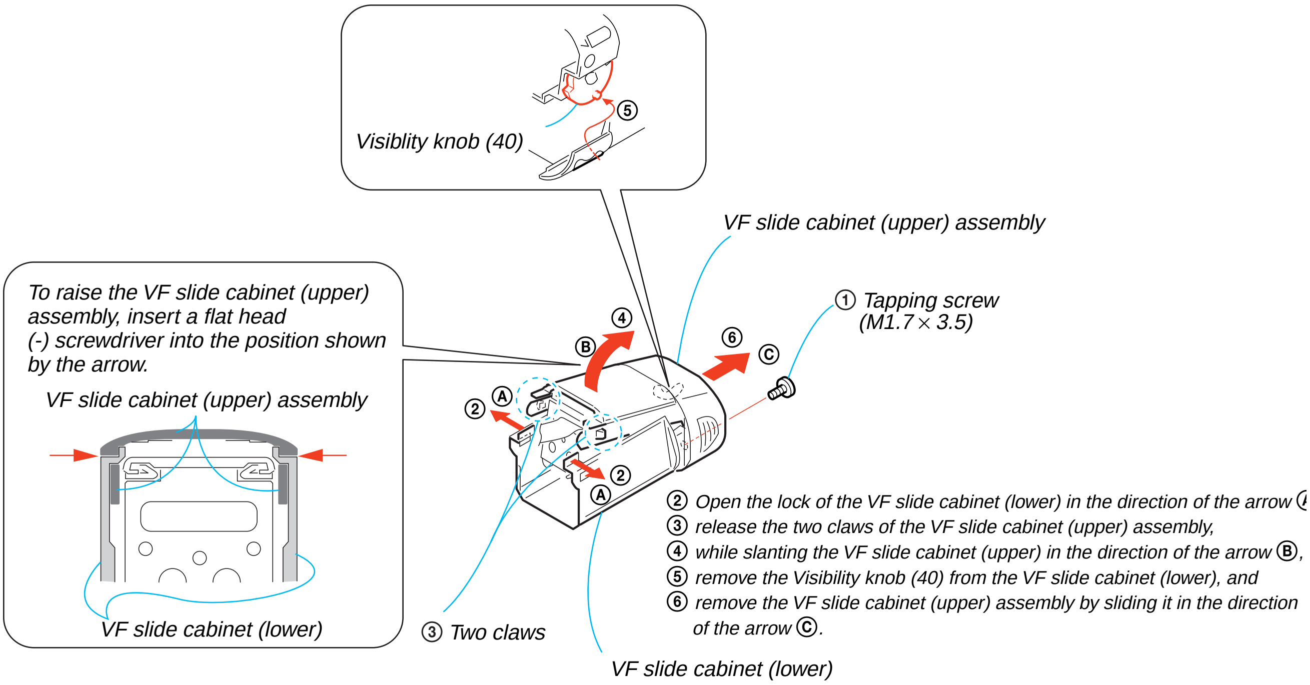
When installing, pass the FP-619 flexible board through the hole of the VF hinge assembly as shown in the illustration.

Finder
FP-619 flexible board
EVF flexible retainer
VF hinge assembly
FP-619 flexible board
① EVF flexible retainer
FP-619 flexible board
② Raise the Finder in the direction of the arrow
④ Screw (M1.7 × 2.5), lock ace, p2
⑥ VF hinge assembly
⑤ Three screws (M1.7 × 4), lock ace, p2
③ Two screws (M1.7 × 2.5), lock ace, p2



⑨ Screw (M1.7 × 2.5), lock ace, p2
⑩ Eye cup (40) assembly
⑦ VF tilt cabinet
⑧ Screw (M1.7 × 2.5), lock ace, p2

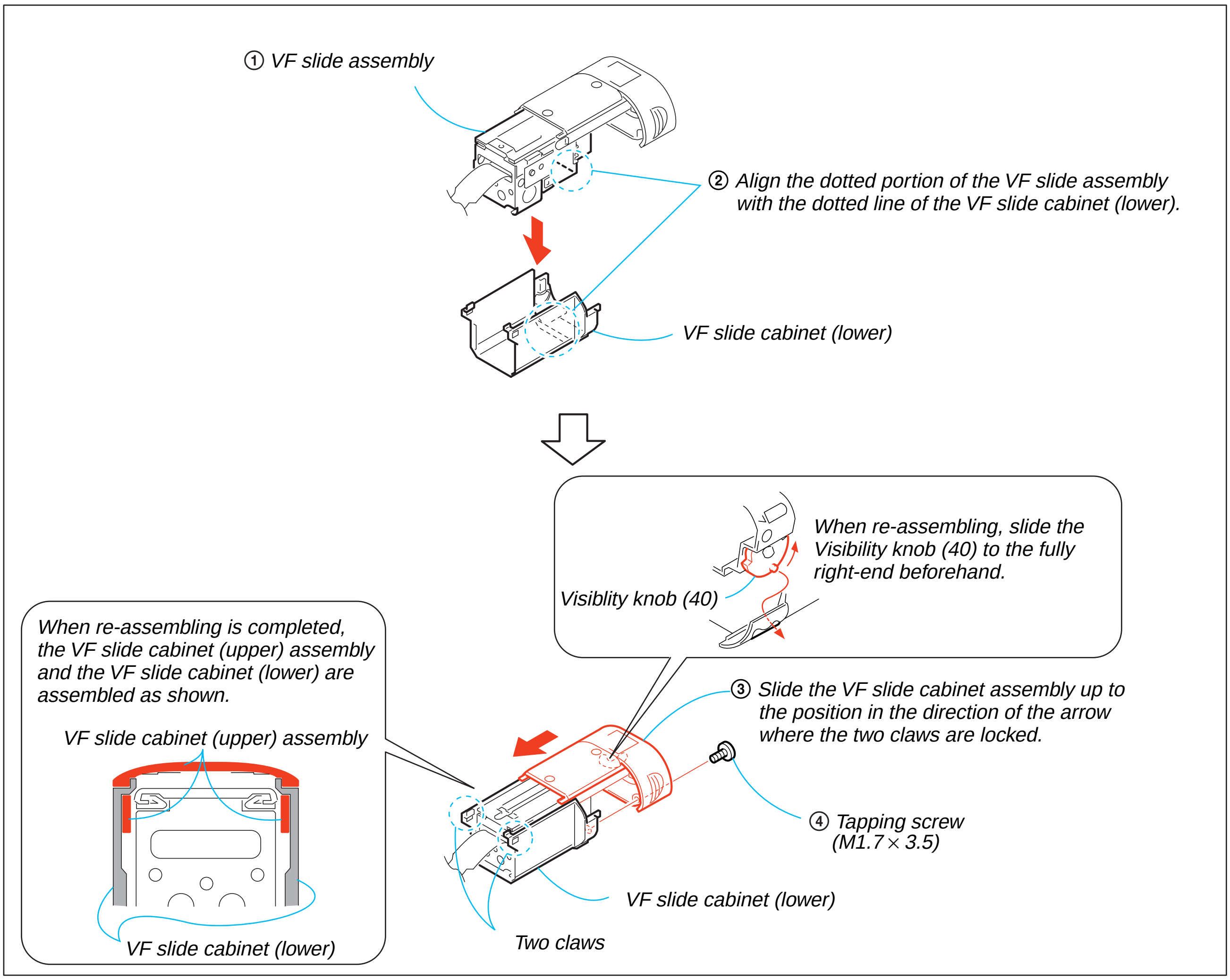
2-12. LB-085 BOARD (REMOVING OF THE EVF)-2


Visiblity knob (40)
⑤
VF slide cabinet (upper) assembly
① Tapping screw
(M1.7 × 3.5)
④
Ⓑ
⑥
Ⓒ
②
Ⓐ
②
Ⓐ
VF slide cabinet (upper) assembly
VF slide cabinet (lower)
③ Two claws
VF slide cabinet (lower)

To raise the VF slide cabinet (upper) assembly, insert a flat head (-) screwdriver into the position shown by the arrow.

② Open the lock of the VF slide cabinet (lower) in the direction of the arrow
③ release the two claws of the VF slide cabinet (upper) assembly,
④ while slanting the VF slide cabinet (upper) in the direction of the arrow Ⓑ,
⑤ remove the Visibility knob (40) from the VF slide cabinet (lower), and
⑥ remove the VF slide cabinet (upper) assembly by sliding it in the direction of the arrow Ⓒ.

RE-ASSEMBLING THE VF SLIDE CABINET


① VF slide assembly
VF slide cabinet (lower)
Visiblity knob (40)
VF slide cabinet (upper) assembly
VF slide cabinet (lower)
④ Tapping screw
(M1.7 × 3.5)
VF slide cabinet (lower)
Two claws

② Align the dotted portion of the VF slide assembly with the dotted line of the VF slide cabinet (lower).

When re-assembling, slide the Visibility knob (40) to the fully right-end beforehand.

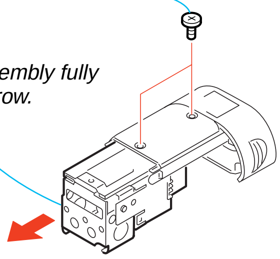
When re-assembling is completed, the VF slide cabinet (upper) assembly and the VF slide cabinet (lower) are assembled as shown.

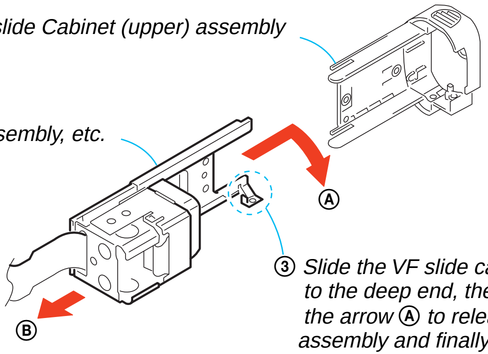
③ Slide the VF slide cabinet assembly up to the position in the direction of the arrow where the two claws are locked.

2-13. LB-085 BOARD (REMOVING OF THE EVF)-3

① Two screws
(M1.7 × 2.5),
lock ace, p2

② Pull out the VF slide assembly fully
in the direction of the arrow.

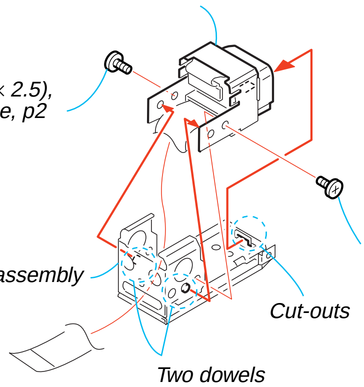



VF slide Cabinet (upper) assembly
VF slide assembly, etc.
Ⓐ
Ⓑ

③ Slide the VF slide cabinet assembly and others once to the deep end, then slant them in the direction of the arrow Ⓐ to release the claw portion of the VF slide assembly and finally pull them out in the direction of the arrow Ⓑ and remove them.

⑥ Remove the LCD cabinet assembly and others from the two dowels and cut-outs of the VF slide assembly.

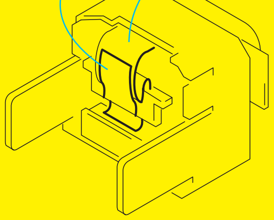
⑤ Screw
(M1.7 × 2.5),
lock ace, p2

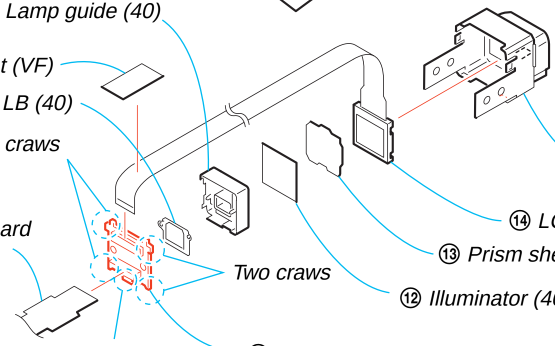

VF slide assembly
Cut-outs
Two dowels

④ Screw
(M1.7 × 2.5),
lock ace, p2

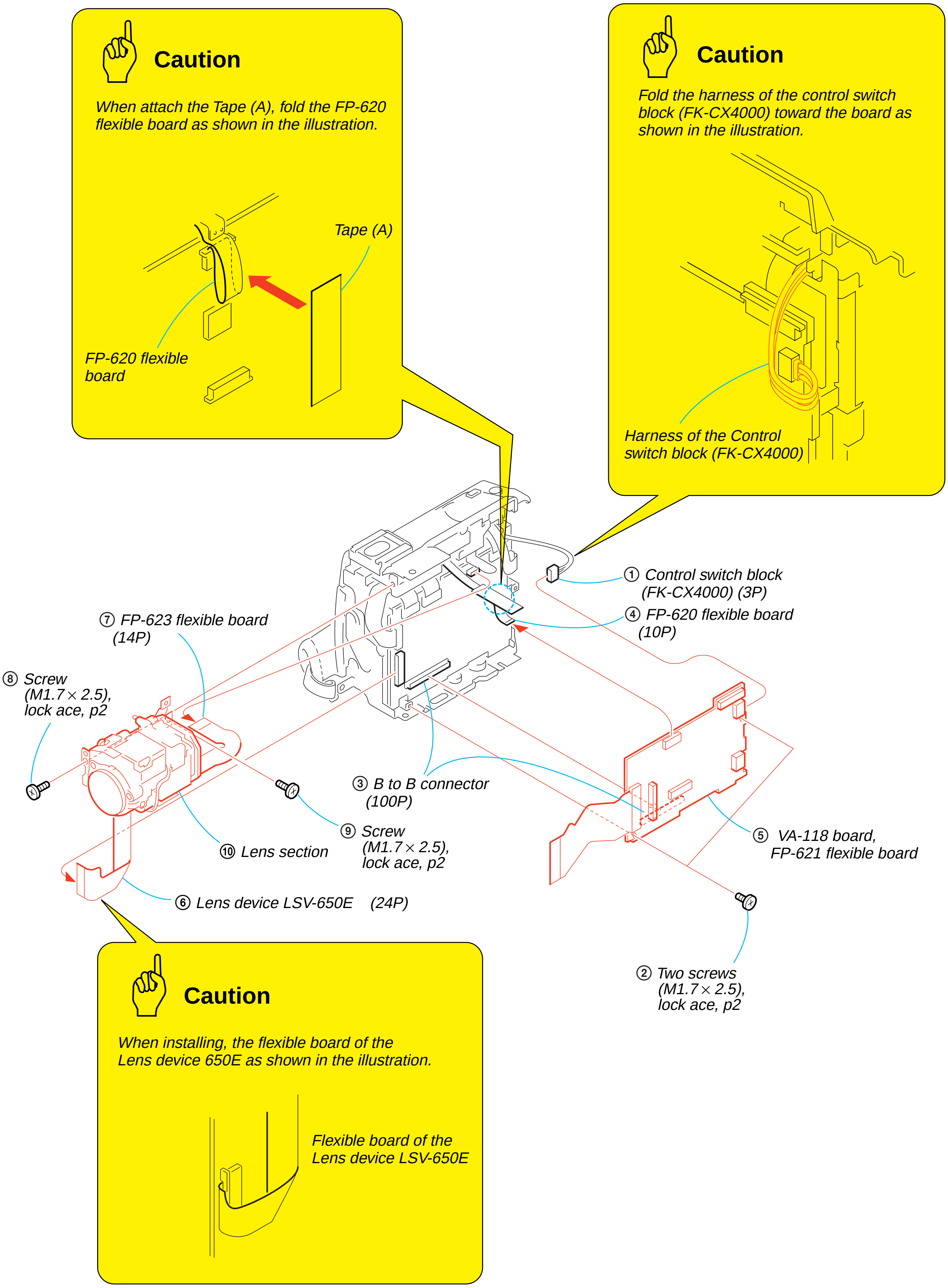
Caution

When attach the Sheet (VF), fold the FP-619 flexible board as shown in the illustration.


FP-619 flexible board
Sheet (VF)


⑪ Lamp guide (40)
⑦ Sheet (VF)
⑩ Cushion LB (40)
Two craws
⑧ FP-619 flexible board
Two craws
Projected part
⑨ LB-085 board
⑮ LCD cabinet assembly
⑭ LCX032AN-5
⑬ Prism sheet (40)
⑫ Illuminator (40)

2-14. VA-118 BOARD, LENS SECTION



Caution

When attach the Tape (A), fold the FP-620 flexible board as shown in the illustration.

Tape (A)
FP-620 flexible board

Caution

Fold the harness of the control switch block (FK-CX4000) toward the board as shown in the illustration.

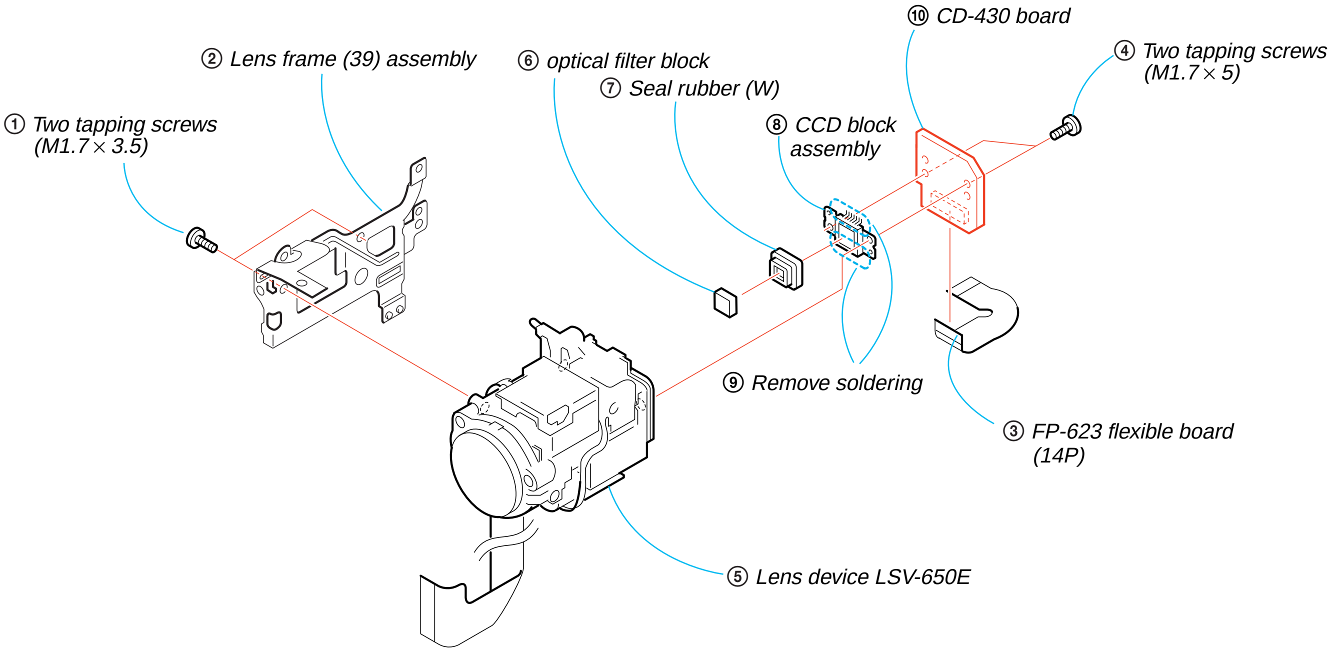
Harness of the Control switch block (FK-CX4000)
① Control switch block (FK-CX4000) (3P)
④ FP-620 flexible board (10P)
⑦ FP-623 flexible board (14P)
⑧ Screw (M1.7 × 2.5), lock ace, p2
③ B to B connector (100P)
⑨ Screw (M1.7 × 2.5), lock ace, p2
⑩ Lens section
⑤ VA-118 board, FP-621 flexible board
⑥ Lens device LSV-650E (24P)
② Two screws (M1.7 × 2.5), lock ace, p2

Caution

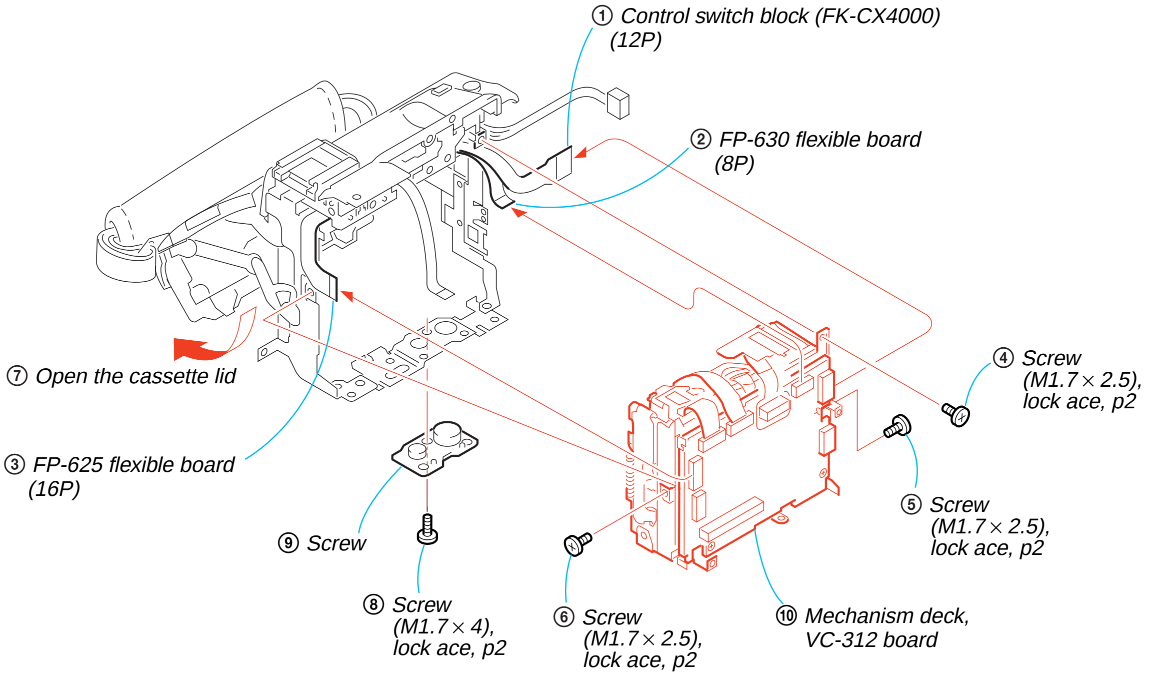
When installing, the flexible board of the Lens device 650E as shown in the illustration.

Flexible board of the Lens device LSV-650E

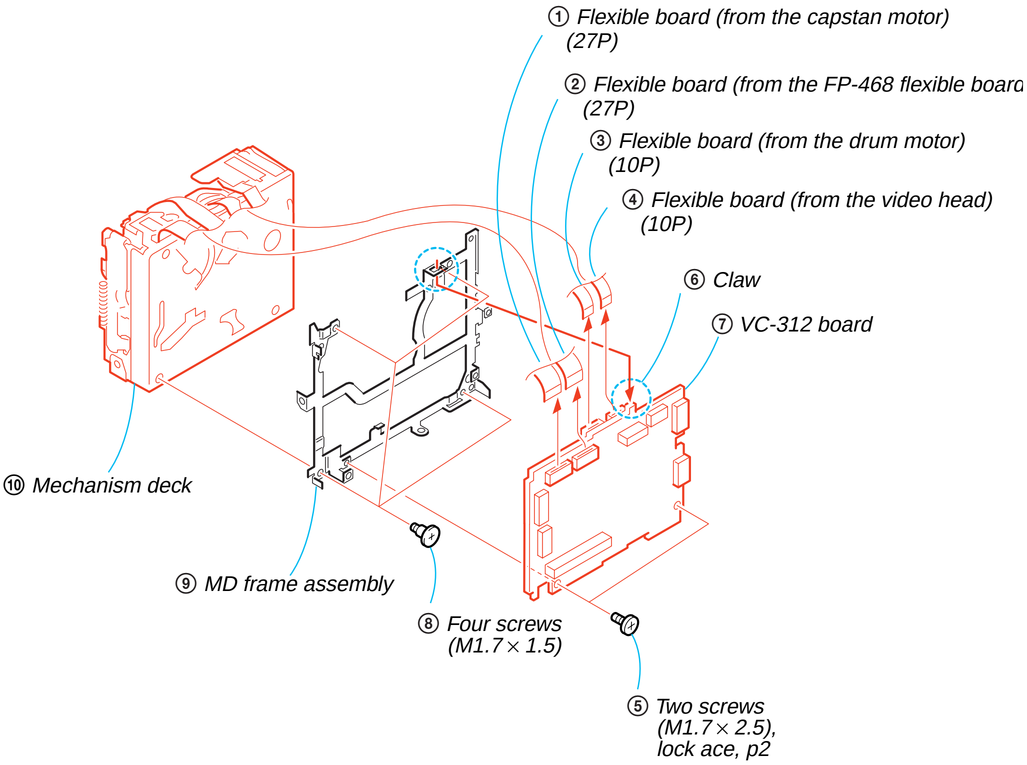
2-15. CD-430 BOARD


⑩ CD-430 board
④ Two tapping screws
(M1.7 × 5)
② Lens frame (39) assembly
⑥ optical filter block
⑦ Seal rubber (W)
⑧ CCD block
assembly
① Two tapping screws
(M1.7 × 3.5)
⑨ Remove soldering
③ FP-623 flexible board
(14P)
⑤ Lens device LSV-650E

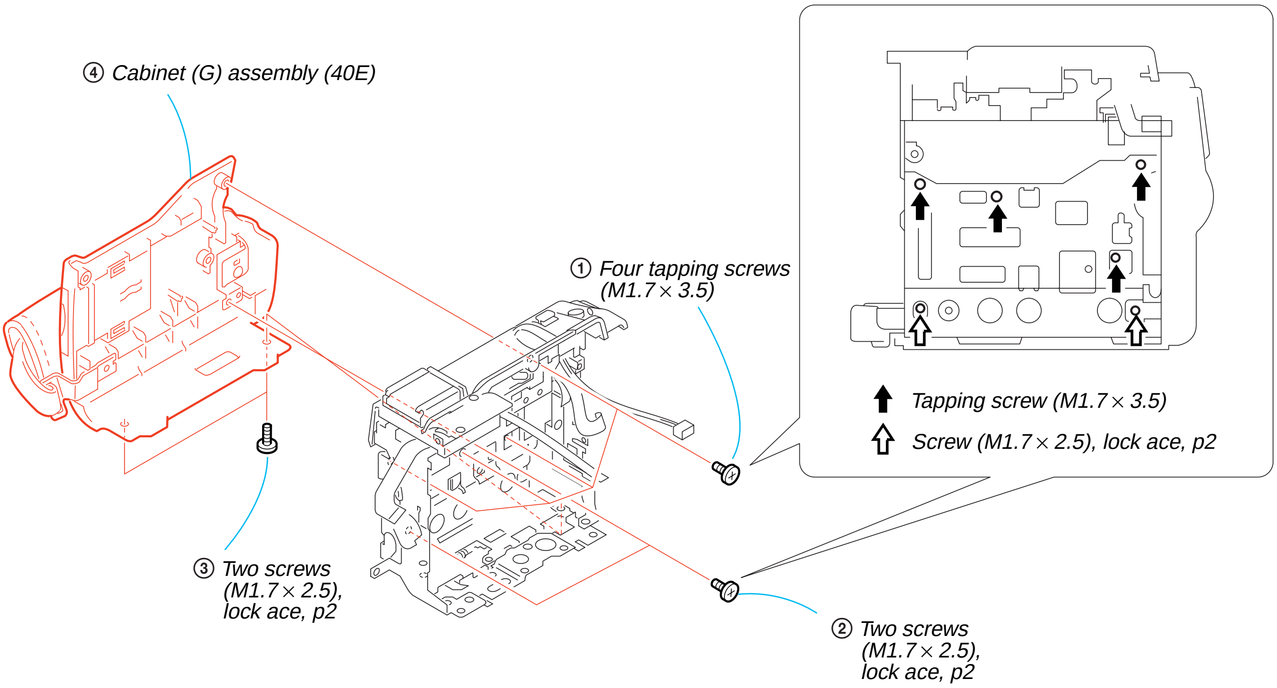
2-16. MECHANISM DECK, VC-312 BOARD (1)


① Control switch block (FK-CX4000)
(12P)
② FP-630 flexible board
(8P)
④ Screw
(M1.7 × 2.5),
lock ace, p2
⑦ Open the cassette lid
③ FP-625 flexible board
(16P)
⑤ Screw
(M1.7 × 2.5),
lock ace, p2
⑨ Screw
⑧ Screw
(M1.7 × 4),
lock ace, p2
⑥ Screw
(M1.7 × 2.5),
lock ace, p2
⑩ Mechanism deck,
VC-312 board

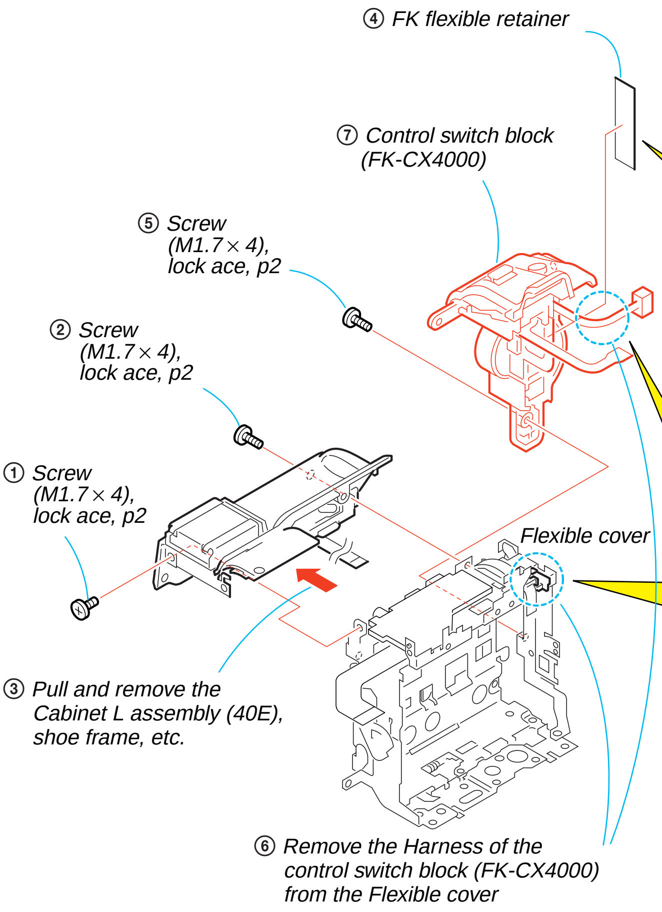
2-17. MECHANISM DECK, VC-312 BOARD (2)


① Flexible board (from the capstan motor) (27P)
② Flexible board (from the FP-468 flexible board (27P)
③ Flexible board (from the drum motor) (10P)
④ Flexible board (from the video head) (10P)
⑤ Two screws (M1.7 × 2.5), lock ace, p2
⑥ Claw
⑦ VC-312 board
⑧ Four screws (M1.7 × 1.5)
⑨ MD frame assembly
⑩ Mechanism deck

2-18. CABINET (G) ASSEMBLY (40E)

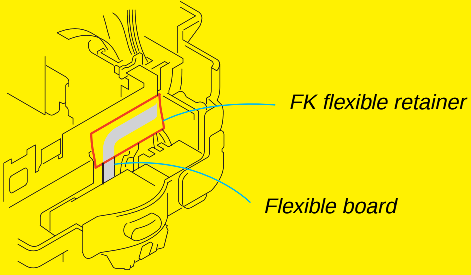

④ Cabinet (G) assembly (40E)
① Four tapping screws (M1.7 × 3.5)
③ Two screws (M1.7 × 2.5), lock ace, p2
② Two screws (M1.7 × 2.5), lock ace, p2
Tapping screw (M1.7 × 3.5)
Screw (M1.7 × 2.5), lock ace, p2

2-19. CONTROL SWITCH BLOCK (FK-CX4000)


④ FK flexible retainer
⑦ Control switch block
(FK-CX4000)
⑤ Screw
(M1.7 × 4),
lock ace, p2
② Screw
(M1.7 × 4),
lock ace, p2
① Screw
(M1.7 × 4),
lock ace, p2
Flexible cover
③ Pull and remove the
Cabinet L assembly (40E),
shoe frame, etc.
⑥ Remove the Harness of the
control switch block (FK-CX4000)
from the Flexible cover

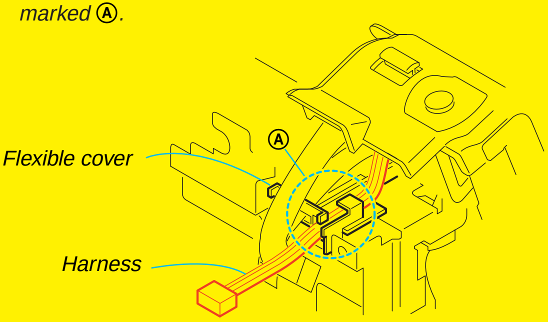
Caution

When installing, fix the flexible board of the Control switch block (FK-CX4000) with the FK flexible retainer as shown in the illustration.

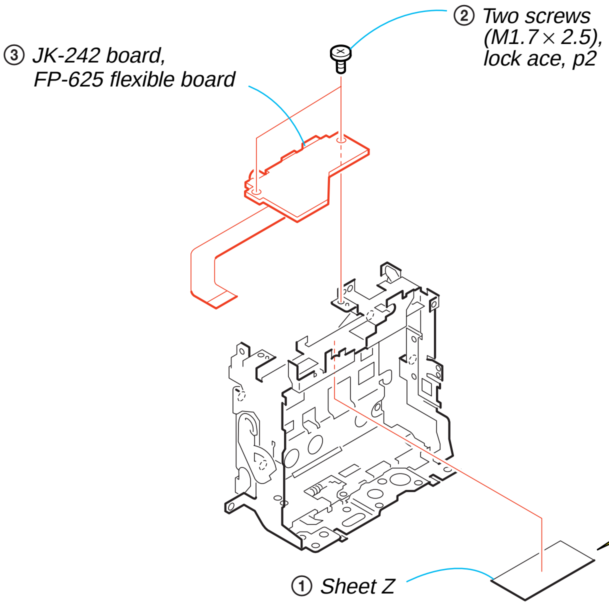

FK flexible retainer
Flexible board

Caution

When installing, pass harness of the Control switch block (FK-CX4000) the through the Flexible cover by the marked Ⓐ.

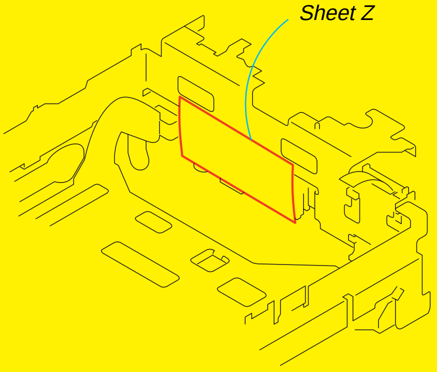

Flexible cover
Ⓐ
Harness

2-20. JK-242 BOARD


③ JK-242 board,
FP-625 flexible board
② Two screws
(M1.7 × 2.5),
lock ace, p2
① Sheet Z

Caution

Install the Sheet Z as shown in the illustration.



[SERVICE POSITION TO CHECK THE VTR SECTION]

Connection to Check the VTR Section

To check the VTR section, set the VTR to the “Forced VTR power ON” mode.
Operate the VTR functions using the adjustment remote commander (with the HOLD switch set in the OFF position).

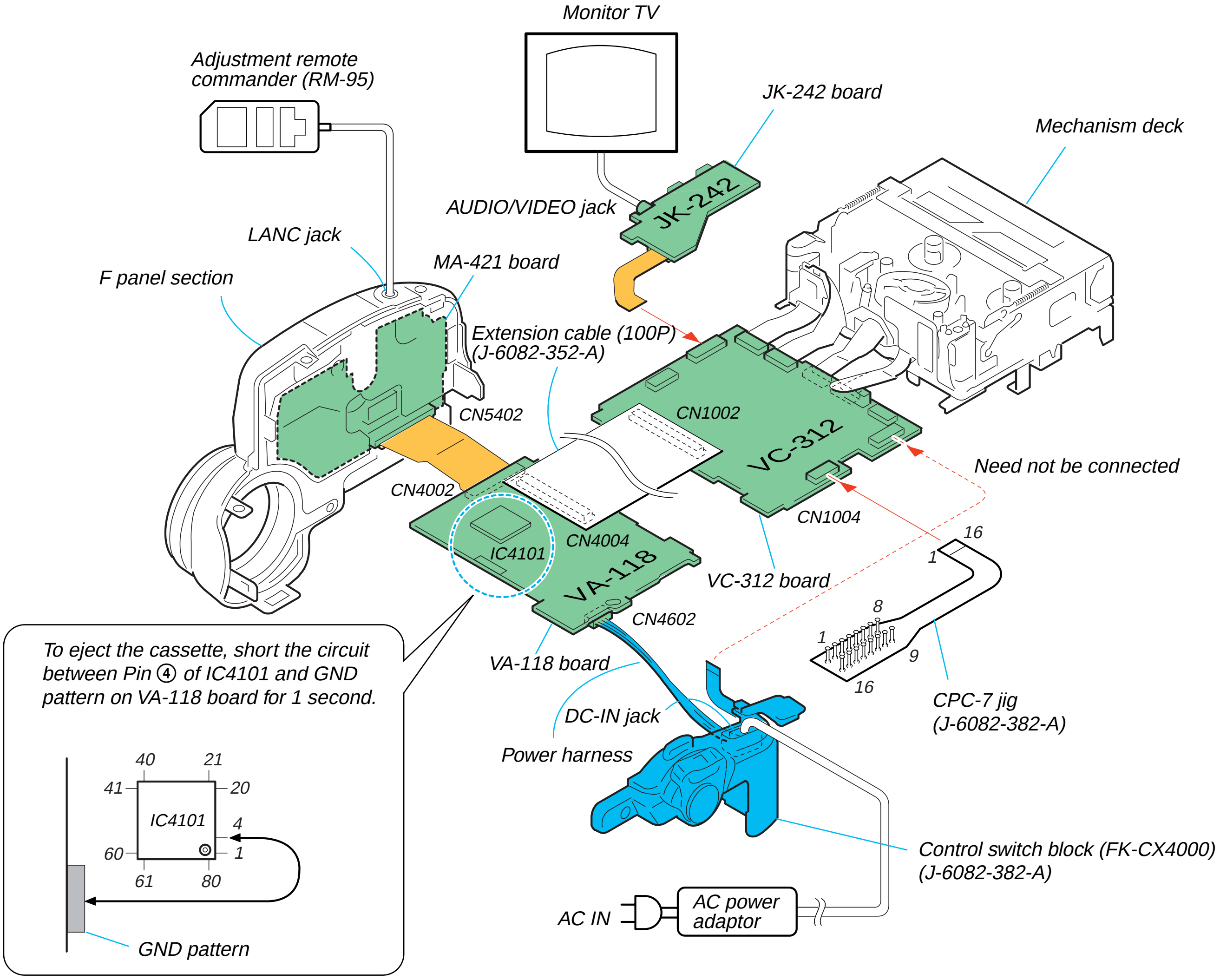
Setting the “Forced VTR Power ON” mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 00.
3) Select page: D, address: 10, set data: 02, and press the PAUSE button of the adjustment remote commander.

Exiting the “Forced VTR Power ON” mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 00.
3) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 00.

(To eject the cassette, short the circuit between Pin ④ of IC4101 and GND pattern on VA-118 board for 1 second.)

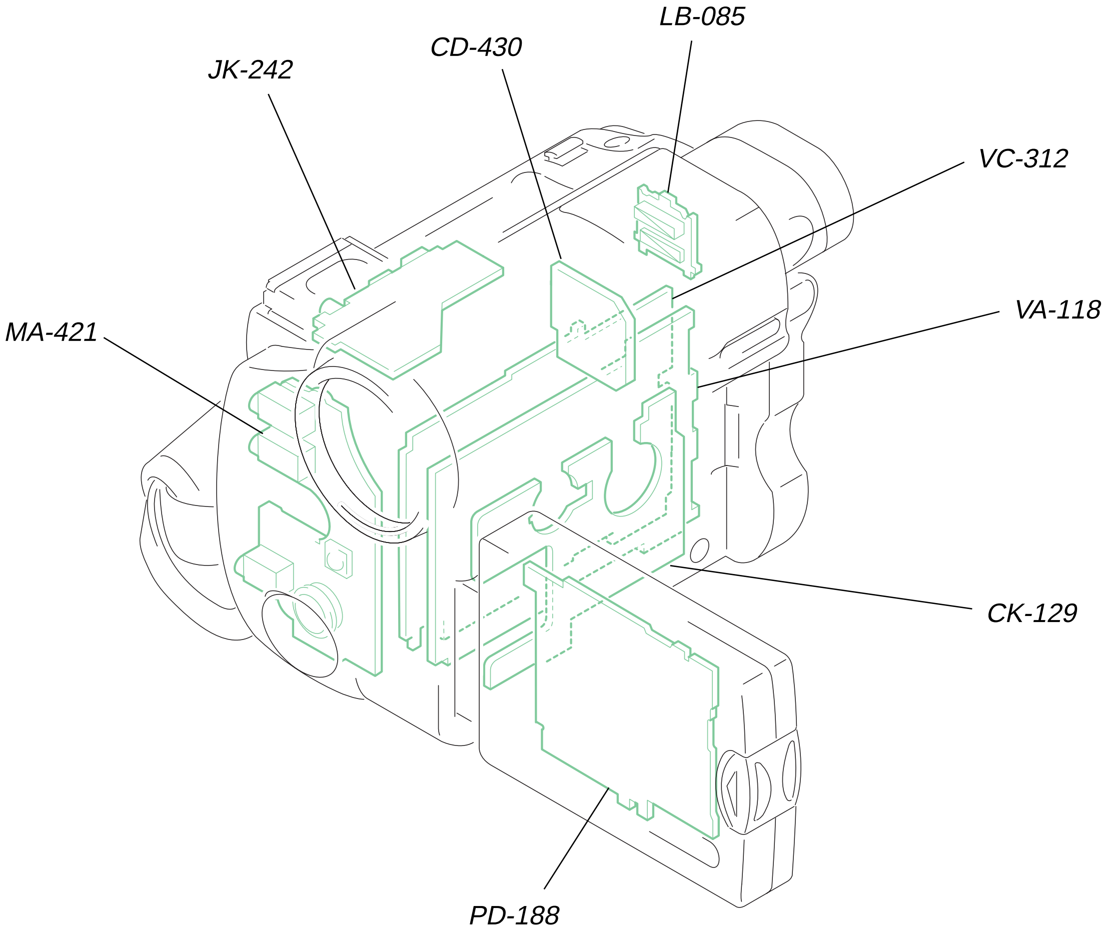

Monitor TV
Adjustment remote commander (RM-95)
JK-242 board
Mechanism deck
AUDIO/VIDEO jack
JK-242
LANC jack
MA-421 board
F panel section
Extension cable (100P) (J-6082-352-A)
CN5402
CN1002
VC-312
Need not be connected
CN4002
CN1004
16
1
IC4101
CN4004
VA-118
VC-312 board
8
CN4602
1
9
16
VA-118 board
CPC-7 jig (J-6082-382-A)
DC-IN jack
Power harness
40
21
41
20
IC4101
4
60
1
61
80
GND pattern
Control switch block (FK-CX4000) (J-6082-382-A)
AC IN
AC power adaptor

To eject the cassette, short the circuit between Pin ④ of IC4101 and GND pattern on VA-118 board for 1 second.

PROCEDURE OF REMOVING MECHANISM DECK

① 2-2. CABINET (R) COVER (39E) ASSEMBLY .... (page 2-4)
② 2-3. F PANEL SECTION .... (page 2-5)
③ 2-5. CABINET (R) SECTION ....(page 2-7)
④ 2-10. BT PANEL/EVF SECTION .... (page 2-11)
⑤ 2-14. VA-118 BOARD, LENS SECTION .... (page 2-15)
⑥ 2-16. MECHANISM DECK, VC-312 BOARD (1) .... (page 2-16)
⑦ 2-17. MECHANISM DECK, VC-312 BOARD (2) .... (page 2-17)
⑧ 2-18. CABINET (G) ASSEMBLY (40E) .... (page 2-17)
⑨ 2-19. CONTROL SWITCH BLOCK (FK-CX4000).... (page 2-18)
⑩ 2-20. JK-242 BOARD .... (page 2-18)

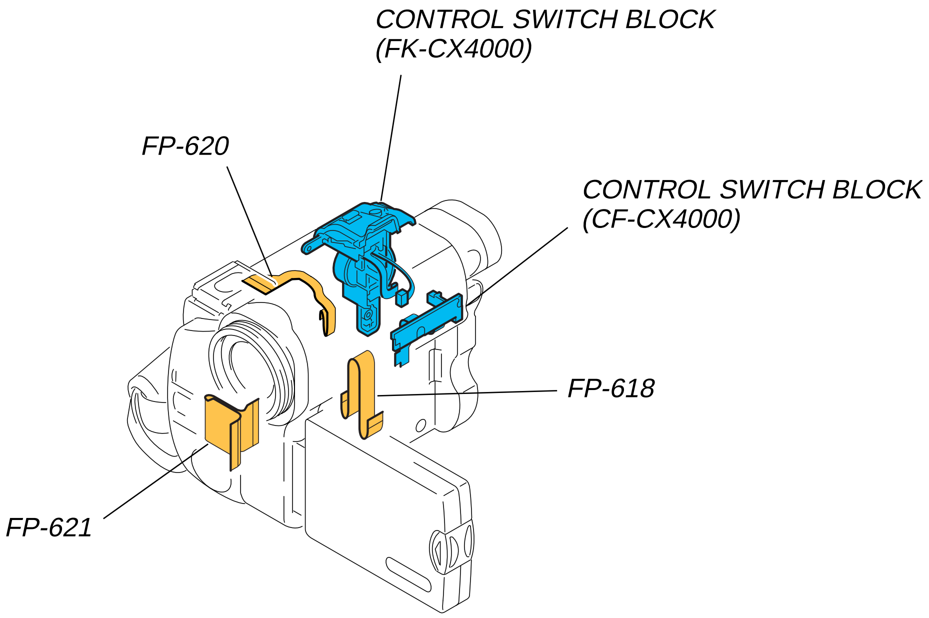
2-21. CIRCUIT BOARDS LOCATION

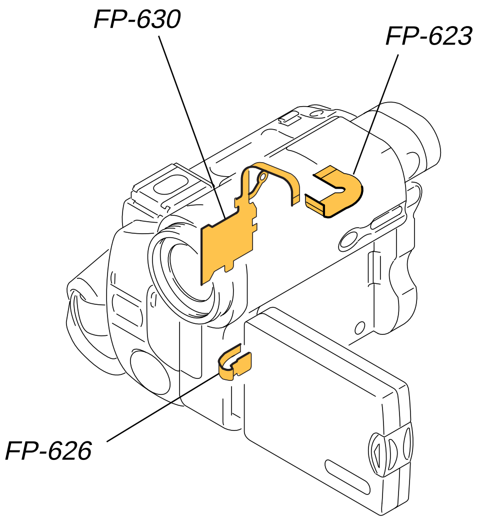

LB-085
CD-430
JK-242
VC-312
VA-118
MA-421
CK-129
PD-188

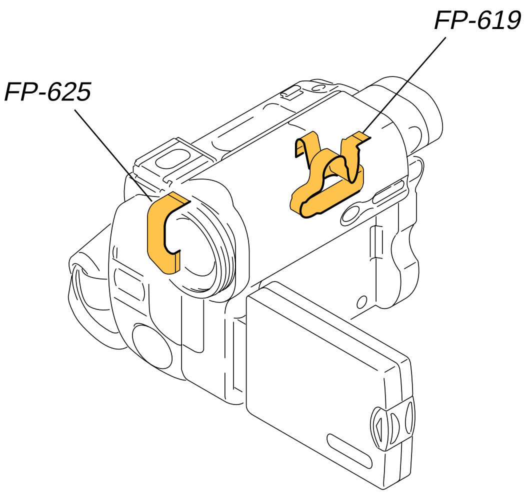
NAME	*FUNCTION*
CD-430	*CCD IMAGER*
CK-129	*FUNCTION SWITCH*
JK-242	*RELAY*
LB-085	*EVF, BACKLIGHT*
MA-421	*MIC AMP, Y/P SENSOR, V/A IN/OUT*
PD-188	*RGB DRIVE, TIMING GENE, BACKLIGHT*
VA-118	*RGB DRIVE, HI CONTROL, Y/P SENSOR AMP, POWER IN, CHARGE, CONNECTOR*
VC-312	*CAMERA A/D CONV., TIMING GENERATOR, LENS DRIVE, MPEG/DV STILL PROCESSOR, SERVO, AUDIO, CAMERA/MECHA/HI CONTROL, CONNECTOR*

2-22. FLEXIBLE BOARDS LOCATION

The flexible boards contained in the mechanism deck and that in the lens device are not shown.


CONTROL SWITCH BLOCK
(FK-CX4000)
FP-620
CONTROL SWITCH BLOCK
(CF-CX4000)
FP-618
FP-621


FP-630
FP-623
FP-626

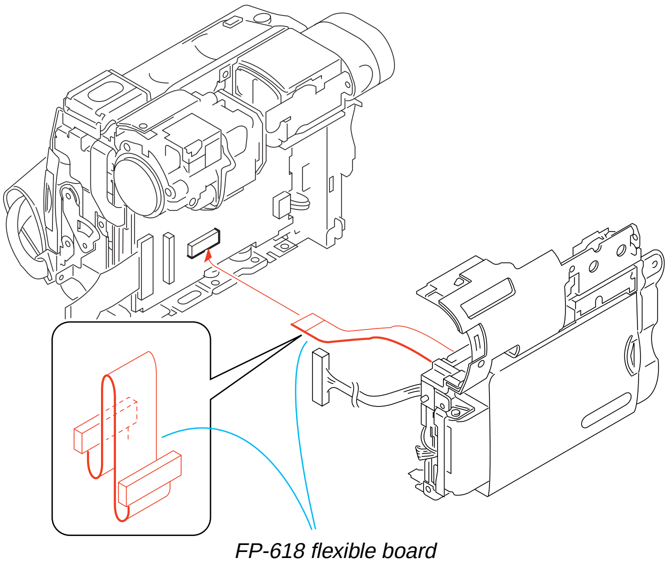

FP-619
FP-625

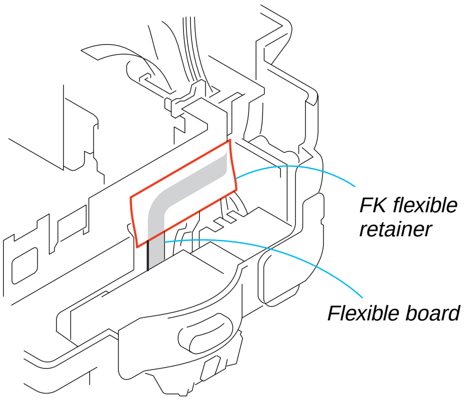
4/Feb/2003

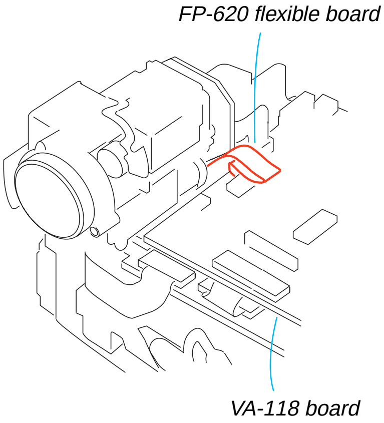
HELP

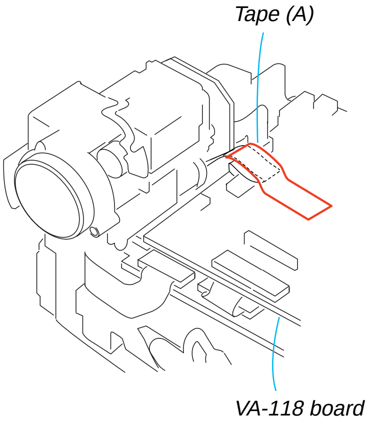
Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

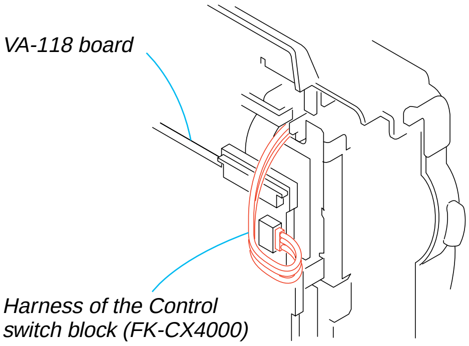
OVERALL SECTION -1

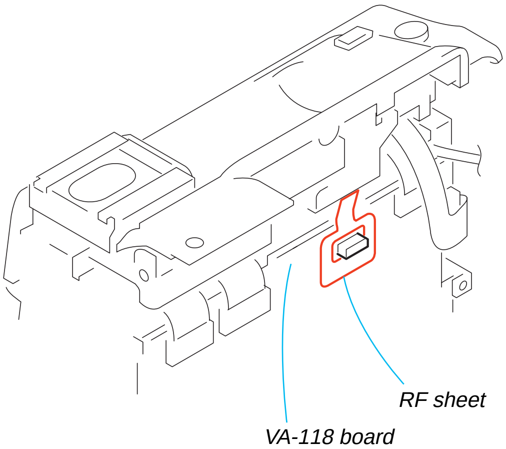

FP-618 flexible board


FK flexible retainer
Flexible board

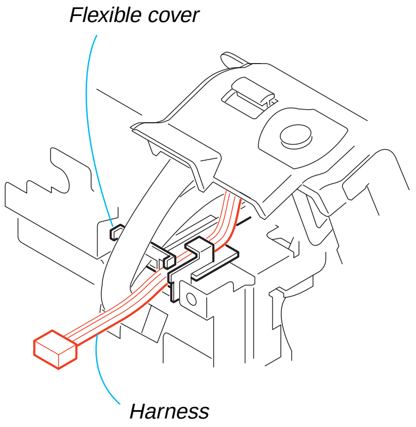

FP-620 flexible board
VA-118 board


Tape (A)
VA-118 board

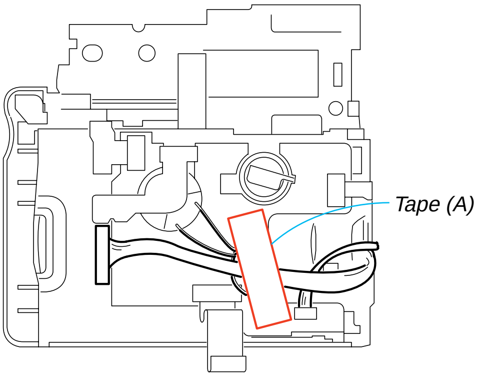

VA-118 board
Harness of the Control switch block (FK-CX4000)


RF sheet
VA-118 board

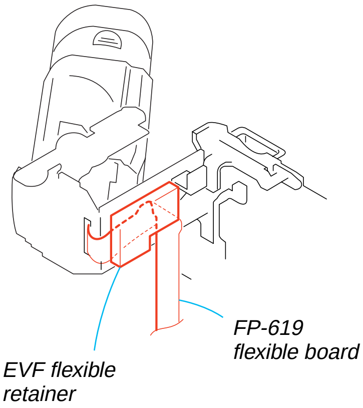
OVERALL SECTION -2

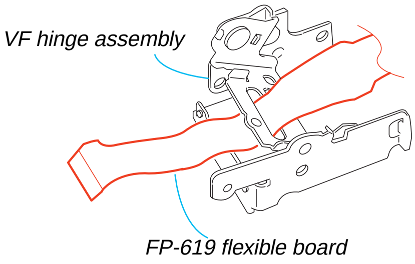

Flexible cover
Harness

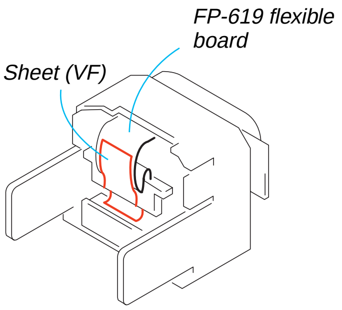
CABINET R SECTION

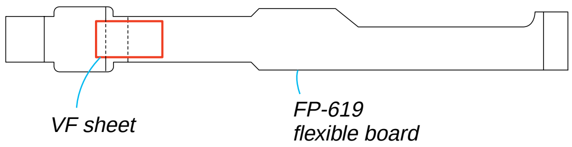


BT PANEL/EVF SECTION


FP-619
flexible board
EVF flexible
retainer

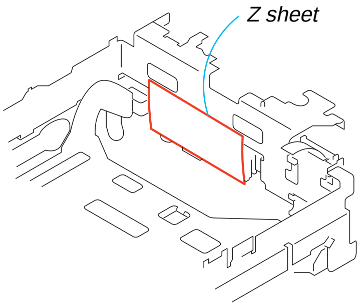

VF hinge assembly
FP-619 flexible board


FP-619 flexible
board
Sheet (VF)


VF sheet
FP-619
flexible board

HELP

CABINET L SECTION



COVER

3. BLOCK DIAGRAMS

Link

OVERALL BLOCK DIAGRAM (1/4)	POWER BLOCK DIAGRAM (1/2)
OVERALL BLOCK DIAGRAM (2/4)	POWER BLOCK DIAGRAM (2/2)
OVERALL BLOCK DIAGRAM (3/4)	
OVERALL BLOCK DIAGRAM (4/4)	

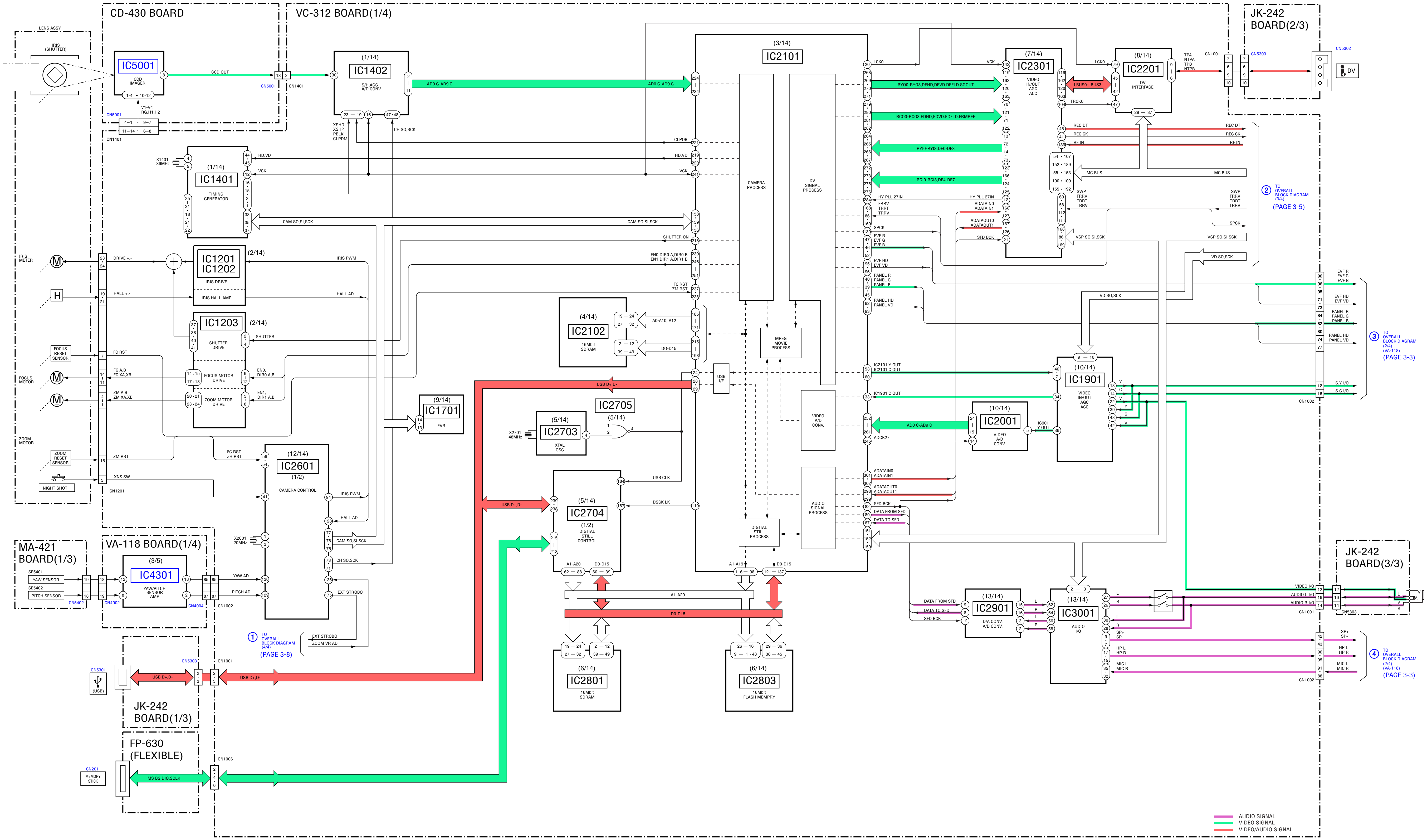
COVER

SECTION 3
BLOCK DIAGRAMS

3. BLOCK DIAGRAMS

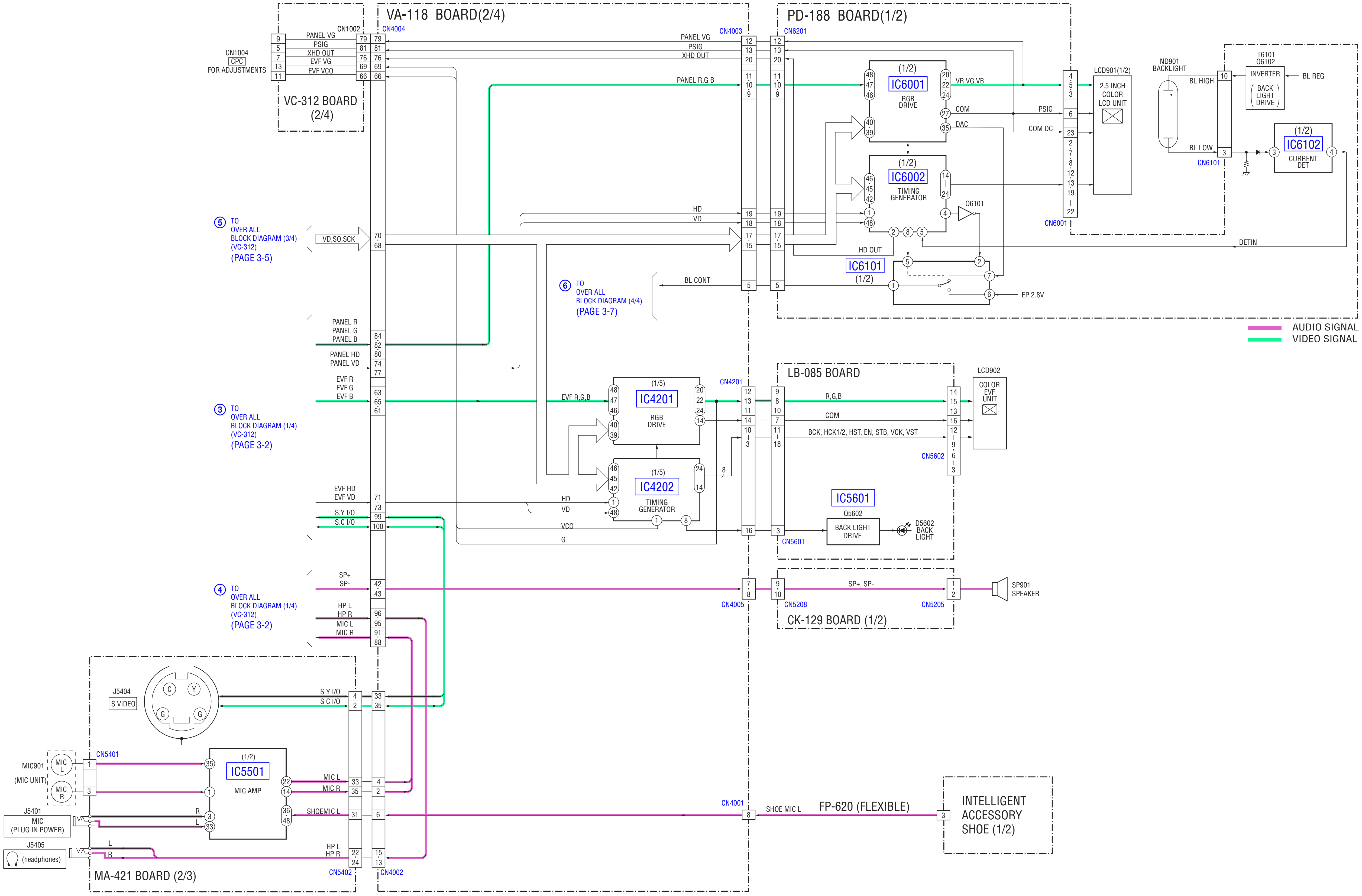
3-1. OVERALL BLOCK DIAGRAM (1/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.


CD-430 BOARD
VC-312 BOARD(1/4)
JK-242 BOARD(2/3)
LENS ASSY
IRIS (SHUTTER)
IC5001
CCD IMAGER
CCD OUT
CN5001
CN1401
(1/14)
IC1402
S/H,AGC A/D CONV.
AD0 G-AD9 G
(3/14)
IC2101
CAMERA PROCESS
DV SIGNAL PROCESS
MPEG MOVIE PROCESS
VIDEO A/D CONV.
AUDIO SIGNAL PROCESS
DIGITAL STILL PROCESS
USB I/F
(7/14)
IC2301
VIDEO IN/OUT AGC ACC
(8/14)
IC2201
DV INTERFACE
LBUS0-LBUS3
DV
CN1001
CN5303
CN5302
RY00-RY03,EHD,DEVD,DEFLD,SGOUT
RC00-RC03,EDHD,EDVD,EDFLD,FRMREF
RYI0-RYI3,DEO-DE3
RCI0-RCI3,DE4-DE7
REC DT
REC CK
RF IN
MC BUS
SWP
FRRV
TRRT
TRRV
SPCK
VSP SO,SI,SCK
VD SO,SCK
(1/14)
IC1401
TIMING GENERATOR
X1401 36MHz
HD,VD
VCK
CLPOB
CAM SO,SI,SCK
SHUTTER ON
IC1201
IC1202
(2/14)
IRIS DRIVE
IRIS HALL AMP
IRIS PWM
HALL AD
IRIS METER
DRIVE +,-
HALL +,-
IC1203
(2/14)
SHUTTER DRIVE
FOCUS MOTOR DRIVE
ZOOM MOTOR DRIVE
FOCUS RESET SENSOR
FOCUS MOTOR
ZOOM MOTOR
ZOOM RESET SENSOR
NIGHT SHOT
FC RST
ZM RST
XNS SW
CN1201
(4/14)
IC2102
16Mbit SDRAM
A0-A10, A12
D0-D15
(9/14)
IC1701
EVR
IC2705
(5/14)
IC2703
XTAL OSC
X2701 48MHz
(5/14)
IC2704
(1/2)
DIGITAL STILL CONTROL
USB D+,D-
USB CLK
DSCK LK
(12/14)
IC2601
(1/2)
CAMERA CONTROL
X2601 20MHz
CH SO,SCK
EXT STROBO
ZOOM VR AD
YAW AD
PITCH AD
MA-421 BOARD(1/3)
SE5401
YAW SENSOR
SE5402
PITCH SENSOR
CN5402
VA-118 BOARD(1/4)
(3/5)
IC4301
YAW/PITCH SENSOR AMP
CN4002
CN4004
CN1002
① TO OVERALL BLOCK DIAGRAM (4/4) (PAGE 3-8)
JK-242 BOARD(1/3)
CN5301
(USB)
CN5303
CN1001
FP-630 (FLEXIBLE)
CN201
MEMORY STICK
MS BS,DIO,SCLK
CN1006
A1-A20
D0-D15
(6/14)
IC2801
16Mbit SDRAM
(6/14)
IC2803
16Mbit FLASH MEMPRY
(10/14)
IC1901
VIDEO IN/OUT AGC ACC
IC2101 Y OUT
IC2101 C OUT
IC1901 C OUT
(10/14)
IC2001
VIDEO A/D CONV.
AD0 C-AD9 C
IC901 Y OUT
ADCK27
EVF R
EVF G
EVF B
EVF HD
EVF VD
PANEL R
PANEL G
PANEL B
PANEL HD
PANEL VD
S.Y I/O
S.C I/O
② TO OVERALL BLOCK DIAGRAM (3/4) (PAGE 3-5)
③ TO OVERALL BLOCK DIAGRAM (2/4) (VA-118) (PAGE 3-3)
ADATAIN0
ADATAIN1
ADATAOUT0
ADATAOUT1
SFD BCK
DATA FROM SFD
DATA TO SFD
(13/14)
IC2901
D/A CONV. A/D CONV.
(13/14)
IC3001
AUDIO I/O
JK-242 BOARD(3/3)
VIDEO I/O
AUDIO L I/O
AUDIO R I/O
J5301
AUDIO/VIDEO
SP+
SP-
HP L
HP R
MIC L
MIC R
④ TO OVERALL BLOCK DIAGRAM (2/4) (VA-118) (PAGE 3-3)
AUDIO SIGNAL
VIDEO SIGNAL
VIDEO/AUDIO SIGNAL

3-2. OVERALL BLOCK DIAGRAM (2/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

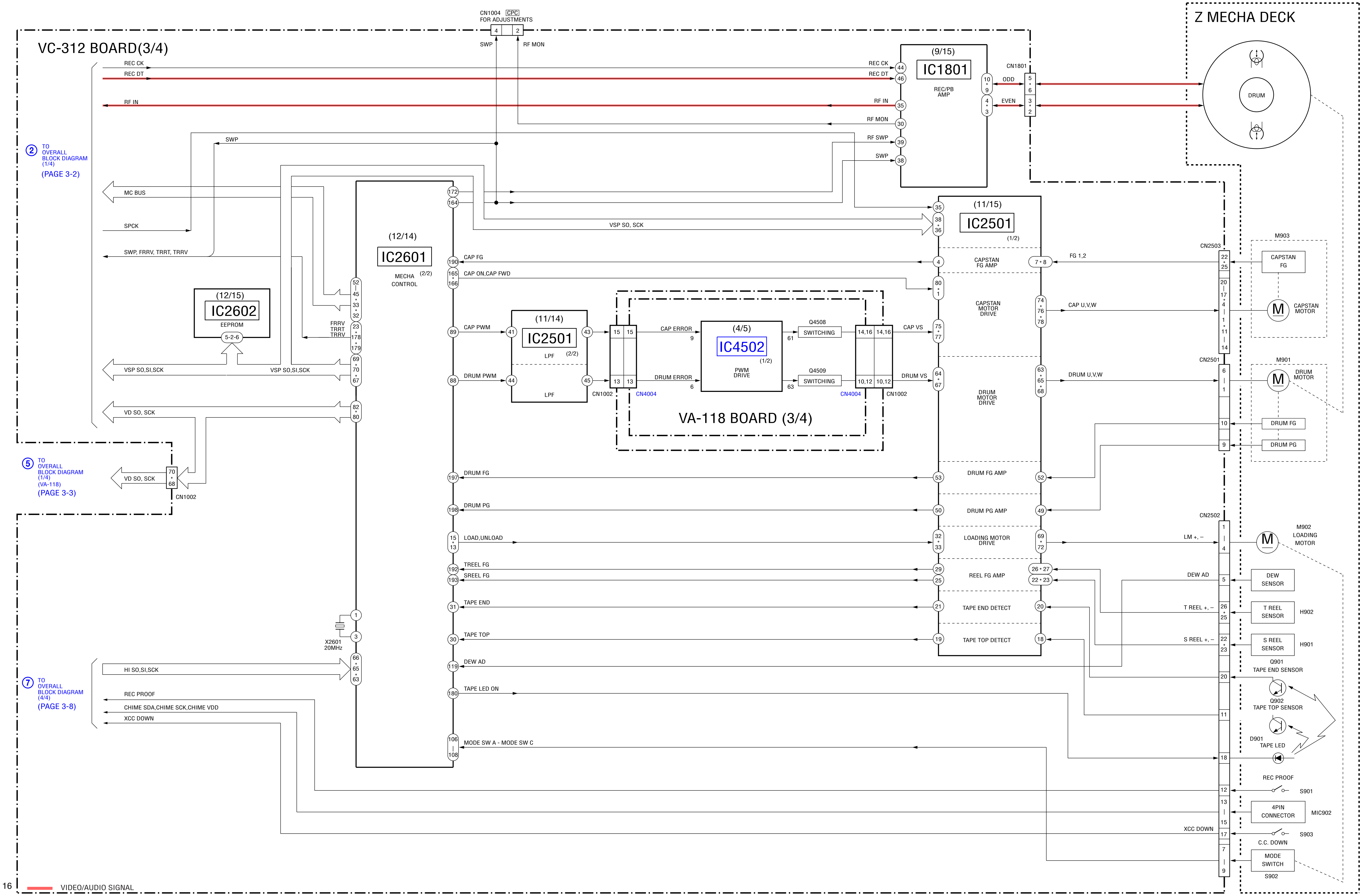

VC-312 BOARD (2/4)
CN1002
CN1004
CPC
FOR ADJUSTMENTS
PANEL VG
PSIG
XHD OUT
EVF VG
EVF VCO
VA-118 BOARD(2/4)
CN4004
CN4003
PANEL R,G B
HD
VD
VD,SO,SCK
BL CONT
⑤ TO OVER ALL BLOCK DIAGRAM (3/4) (VC-312) (PAGE 3-5)
⑥ TO OVER ALL BLOCK DIAGRAM (4/4) (PAGE 3-7)
③ TO OVER ALL BLOCK DIAGRAM (1/4) (VC-312) (PAGE 3-2)
④ TO OVER ALL BLOCK DIAGRAM (1/4) (VC-312) (PAGE 3-2)
PANEL R
PANEL G
PANEL B
PANEL HD
PANEL VD
EVF R
EVF G
EVF B
EVF R,G,B
EVF HD
EVF VD
S.Y I/O
S.C I/O
VCO
G
SP+
SP-
HP L
HP R
MIC L
MIC R
(1/5) IC4201 RGB DRIVE
(1/5) IC4202 TIMING GENERATOR
CN4201
CN4005
CN4001
CN4002
PD-188 BOARD(1/2)
CN6201
(1/2) IC6001 RGB DRIVE
(1/2) IC6002 TIMING GENERATOR
VR,VG,VB
COM
DAC
PSIG
COM DC
Q6101
HD OUT
IC6101 (1/2)
EP 2.8V
CN6001
LCD901(1/2)
2.5 INCH COLOR LCD UNIT
ND901 BACKLIGHT
BL HIGH
BL LOW
CN6101
T6101 Q6102
INVERTER
BACK LIGHT DRIVE
BL REG
(1/2) IC6102 CURRENT DET
DETIN
AUDIO SIGNAL
VIDEO SIGNAL
LB-085 BOARD
LCD902
COLOR EVF UNIT
R,G,B
COM
BCK, HCK1/2, HST, EN, STB, VCK, VST
CN5602
IC5601
Q5602
BACK LIGHT DRIVE
D5602 BACK LIGHT
CN5601
SP+, SP-
CN5208
CN5205
CK-129 BOARD (1/2)
SP901 SPEAKER
J5404
S VIDEO
C
Y
G
S Y I/O
S C I/O
CN5401
MIC901 (MIC UNIT)
MIC L
MIC R
(1/2) IC5501 MIC AMP
J5401 MIC (PLUG IN POWER)
J5405 (headphones)
SHOEMIC L
HP L
HP R
CN5402
MA-421 BOARD (2/3)
SHOE MIC L
FP-620 (FLEXIBLE)
INTELLIGENT ACCESSORY SHOE (1/2)

COVER

3. BLOCK DIAGRAMS

3-3. OVERALL BLOCK DIAGRAM (3/4)

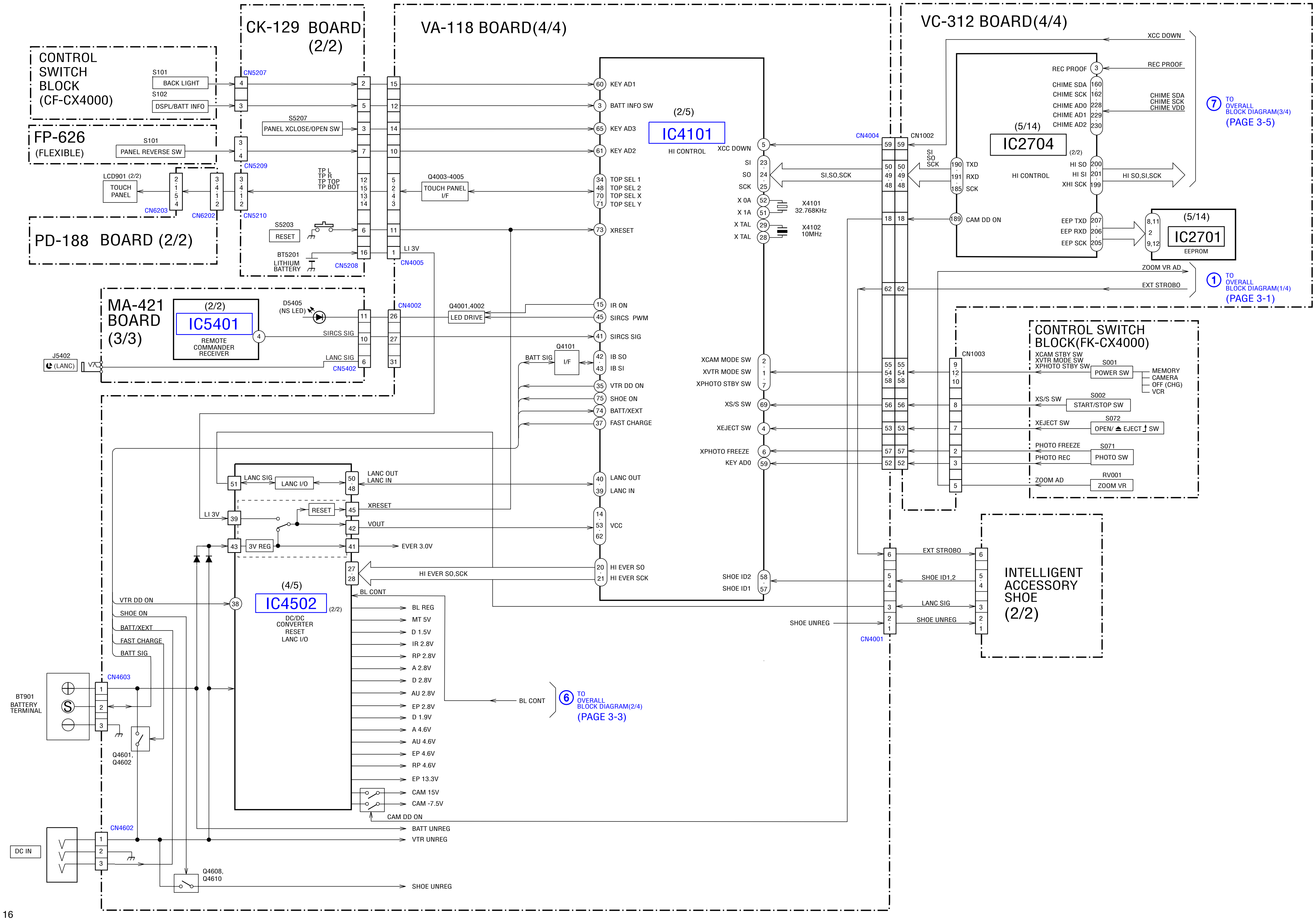
( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



CN1004 CPC FOR ADJUSTMENTS
SWP
RF MON
VC-312 BOARD(3/4)
REC CK
REC DT
RF IN
SWP
MC BUS
SPCK
SWP, FRRV, TRRT, TRRV
② TO OVERALL BLOCK DIAGRAM (1/4) (PAGE 3-2)
(9/15)
IC1801
REC/PB AMP
CN1801
ODD
EVEN
RF MON
RF SWP
Z MECHA DECK
DRUM
(12/14)
IC2601
MECHA CONTROL (2/2)
(12/15)
IC2602
EEPROM
5-2-6
FRRV
TRRT
TRRV
VSP SO,SI,SCK
VD SO, SCK
CAP FG
CAP ON,CAP FWD
CAP PWM
DRUM PWM
(11/14)
IC2501
(2/2)
LPF
CN1002
CN4004
CAP ERROR
DRUM ERROR
(4/5)
IC4502
(1/2)
PWM DRIVE
Q4508 SWITCHING
Q4509 SWITCHING
CAP VS
DRUM VS
VA-118 BOARD (3/4)
(11/15)
IC2501
(1/2)
VSP SO, SCK
CAPSTAN FG AMP
CAPSTAN MOTOR DRIVE
DRUM MOTOR DRIVE
FG 1,2
CAP U,V,W
DRUM U,V,W
CN2503
CN2501
CN2502
M903
CAPSTAN FG
CAPSTAN MOTOR
M901
DRUM MOTOR
DRUM FG
DRUM PG
⑤ TO OVERALL BLOCK DIAGRAM (1/4) (VA-118) (PAGE 3-3)
VD SO, SCK
CN1002
DRUM FG
DRUM PG
DRUM FG AMP
DRUM PG AMP
LOAD,UNLOAD
LOADING MOTOR DRIVE
LM +, –
M902 LOADING MOTOR
TREEL FG
SREEL FG
REEL FG AMP
DEW AD
DEW SENSOR
TAPE END
TAPE END DETECT
T REEL +, –
T REEL SENSOR
H902
TAPE TOP
TAPE TOP DETECT
S REEL +, –
S REEL SENSOR
H901
X2601 20MHz
DEW AD
Q901 TAPE END SENSOR
Q902 TAPE TOP SENSOR
D901 TAPE LED
TAPE LED ON
⑦ TO OVERALL BLOCK DIAGRAM (4/4) (PAGE 3-8)
HI SO,SI,SCK
REC PROOF
CHIME SDA,CHIME SCK,CHIME VDD
XCC DOWN
MODE SW A - MODE SW C
REC PROOF
S901
4PIN CONNECTOR
MIC902
XCC DOWN
S903
C.C. DOWN
MODE SWITCH
S902
16
VIDEO/AUDIO SIGNAL

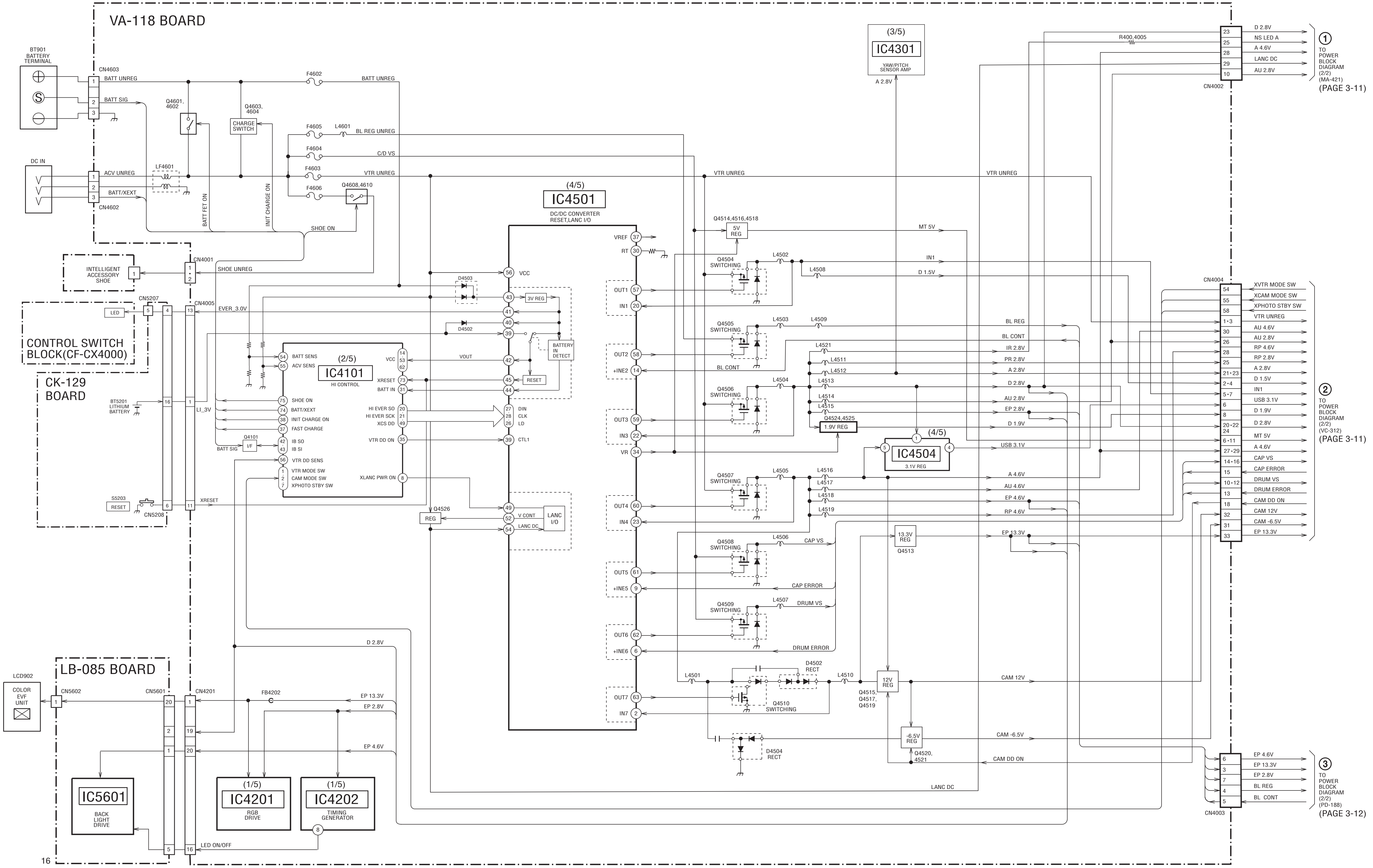
3-4. OVERALL BLOCK DIAGRAM (4/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.


CONTROL SWITCH BLOCK (CF-CX4000)
S101 BACK LIGHT
S102 DSPL/BATT INFO
FP-626 (FLEXIBLE)
S101 PANEL REVERSE SW
LCD901 (2/2) TOUCH PANEL
CN6203
CN6202
PD-188 BOARD (2/2)
CK-129 BOARD (2/2)
CN5207
CN5209
CN5210
CN5208
S5207 PANEL XCLOSE/OPEN SW
TP L
TP R
TP TOP
TP BOT
S5203 RESET
BT5201 LITHIUM BATTERY
VA-118 BOARD(4/4)
Q4003-4005 TOUCH PANEL I/F
LI 3V
CN4005
CN4002
Q4001,4002 LED DRIVE
MA-421 BOARD (3/3)
(2/2) IC5401 REMOTE COMMANDER RECEIVER
D5405 (NS LED)
SIRCS SIG
LANC SIG
CN5402
J5402 (LANC)
(2/5) IC4101 HI CONTROL
KEY AD1
BATT INFO SW
KEY AD3
KEY AD2
TOP SEL 1
TOP SEL 2
TOP SEL X
TOP SEL Y
XRESET
IR ON
SIRCS PWM
SIRCS SIG
Q4101 I/F
BATT SIG
IB SO
IB SI
VTR DD ON
SHOE ON
BATT/XEXT
FAST CHARGE
LANC OUT
LANC IN
VCC
HI EVER SO
HI EVER SCK
XCC DOWN
SI
SO
SCK
X OA
X IA
X TAL
X TAL
X4101 32.768KHz
X4102 10MHz
XCAM MODE SW
XVTR MODE SW
XPHOTO STBY SW
XS/S SW
XEJECT SW
XPHOTO FREEZE
KEY AD0
SHOE ID2
SHOE ID1
SI,SO,SCK
CN4004
CN1002
(4/5) IC4502 (2/2) DC/DC CONVERTER RESET LANC I/O
LANC SIG
LANC I/O
LI 3V
RESET
3V REG
XRESET
VOUT
EVER 3.0V
HI EVER SO,SCK
BL CONT
BL REG
MT 5V
D 1.5V
IR 2.8V
RP 2.8V
A 2.8V
D 2.8V
AU 2.8V
EP 2.8V
D 1.9V
A 4.6V
AU 4.6V
EP 4.6V
RP 4.6V
EP 13.3V
CAM 15V
CAM -7.5V
CAM DD ON
BATT UNREG
VTR UNREG
SHOE UNREG
VTR DD ON
SHOE ON
BATT/XEXT
FAST CHARGE
BATT SIG
CN4603
BT901 BATTERY TERMINAL
Q4601, Q4602
CN4602
DC IN
Q4608, Q4610
⑥ TO OVERALL BLOCK DIAGRAM(2/4) (PAGE 3-3)
VC-312 BOARD(4/4)
XCC DOWN
REC PROOF
CHIME SDA
CHIME SCK
CHIME ADO
CHIME AD1
CHIME AD2
CHIME VDD
(5/14) IC2704 HI CONTROL
(2/2)
SI SO SCK
TXD
RXD
SCK
HI SO
HI SI
XHI SCK
HI SO,SI,SCK
CAM DD ON
EEP TXD
EEP RXD
EEP SCK
(5/14) IC2701 EEPROM
⑦ TO OVERALL BLOCK DIAGRAM(3/4) (PAGE 3-5)
ZOOM VR AD
EXT STROBO
① TO OVERALL BLOCK DIAGRAM(1/4) (PAGE 3-1)
CN1003
CONTROL SWITCH BLOCK(FK-CX4000)
XCAM STBY SW
XVTR MODE SW
XPHOTO STBY SW
S001 POWER SW
MEMORY
CAMERA
OFF (CHG)
VCR
XS/S SW
S002 START/STOP SW
XEJECT SW
S072 OPEN/⏏ EJECT SW
PHOTO FREEZE
PHOTO REC
S071 PHOTO SW
ZOOM AD
RV001 ZOOM VR
EXT STROBO
SHOE ID1,2
LANC SIG
SHOE UNREG
CN4001
INTELLIGENT ACCESSORY SHOE (2/2)

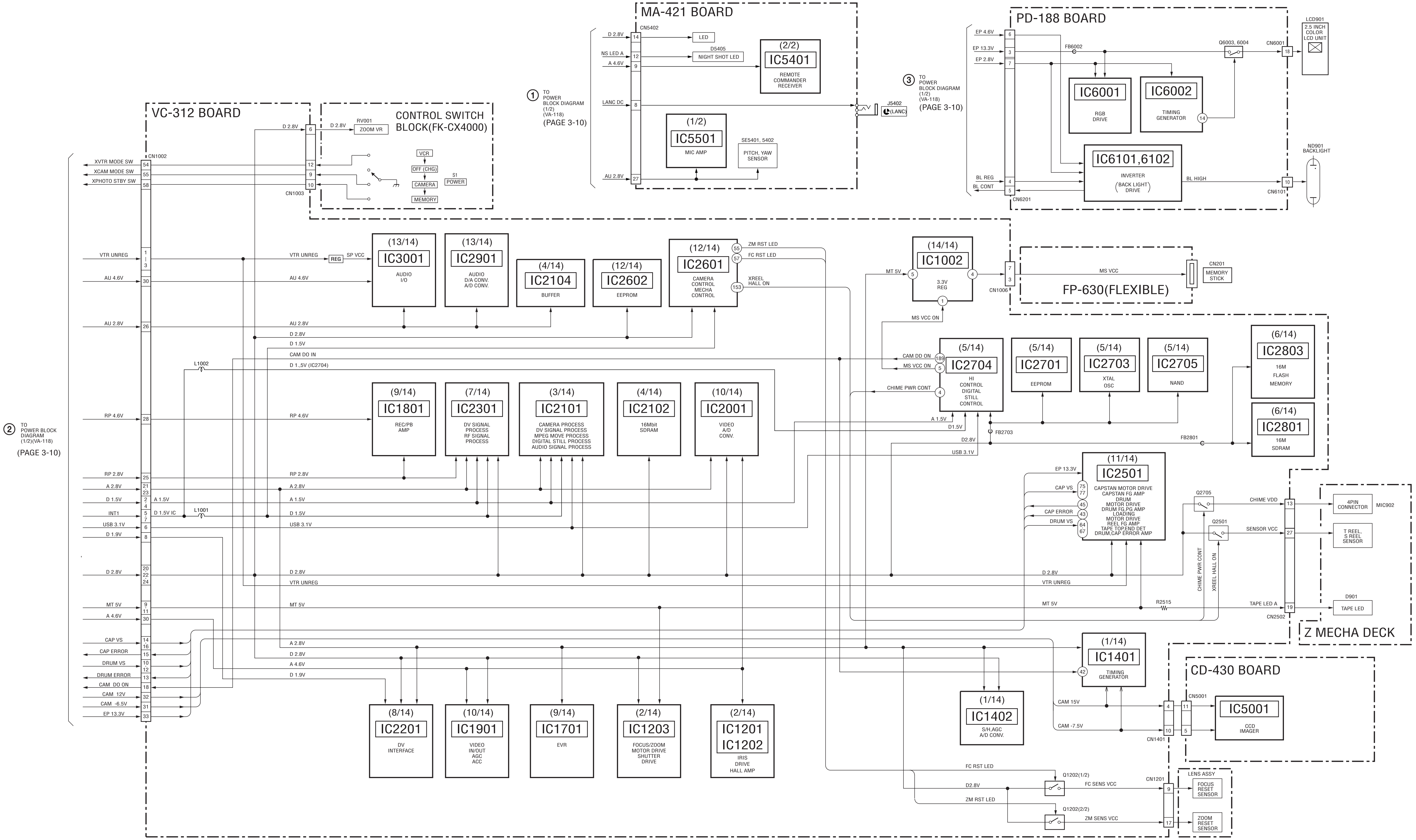
3-5. POWER BLOCK DIAGRAM (1/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.


VA-118 BOARD
BT901 BATTERY TERMINAL
CN4603
BATT UNREG
BATT SIG
DC IN
CN4602
ACV UNREG
BATT/XEXT
LF4601
Q4601, 4602
Q4603, 4604
CHARGE SWITCH
BATT FET ON
INIT CHARGE ON
F4602
F4605
L4601
BL REG UNREG
F4604
C/D VS
F4603
VTR UNREG
F4606
Q4608,4610
SHOE ON
INTELLIGENT ACCESSORY SHOE
CN4001
SHOE UNREG
CN5207
LED
CONTROL SWITCH BLOCK(CF-CX4000)
CN4005
EVER_3.0V
CK-129 BOARD
BT5201 LITHIUM BATTERY
LI_3V
S5203 RESET
CN5208
XRESET
(2/5)
IC4101
HI CONTROL
BATT SENS
ACV SENS
VCC
XRESET
BATT IN
SHOE ON
BATT/XEXT
INIT CHARGE ON
FAST CHARGE
HI EVER SO
HI EVER SCK
XCS DD
Q4101
I/F
BATT SIG
IB SO
IB SI
VTR DD SENS
VTR DD ON
VTR MODE SW
CAM MODE SW
XPHOTO STBY SW
XLANC PWR ON
VOUT
D4503
D4502
3V REG
BATTERY IN DETECT
RESET
Q4526
REG
(4/5)
IC4501
DC/DC CONVERTER RESET,LANC I/O
VCC
DIN
CLK
LD
CTL1
V CONT
LANC DC
LANC I/O
VREF
RT
OUT1
IN1
OUT2
+INE2
OUT3
IN3
VR
OUT4
IN4
OUT5
+INE5
OUT6
+INE6
OUT7
IN7
Q4514,4516,4518
5V REG
MT 5V
Q4504 SWITCHING
L4502
L4508
IN1
D 1.5V
Q4505 SWITCHING
L4503
L4509
BL REG
BL CONT
L4521
IR 2.8V
L4511
PR 2.8V
L4512
A 2.8V
Q4506 SWITCHING
L4504
L4513
D 2.8V
L4514
AU 2.8V
L4515
EP 2.8V
Q4524,4525
1.9V REG
D 1.9V
(4/5)
IC4504
3.1V REG
USB 3.1V
Q4507 SWITCHING
L4505
L4516
A 4.6V
L4517
AU 4.6V
L4518
EP 4.6V
L4519
RP 4.6V
13.3V REG
Q4513
EP 13.3V
Q4508 SWITCHING
L4506
CAP VS
CAP ERROR
Q4509 SWITCHING
L4507
DRUM VS
DRUM ERROR
L4501
D4502 RECT
L4510
Q4510 SWITCHING
Q4515, Q4517, Q4519
12V REG
CAM 12V
-6.5V REG
Q4520, 4521
CAM -6.5V
CAM DD ON
D4504 RECT
LANC DC
D 2.8V
(3/5)
IC4301
YAW/PITCH SENSOR AMP
A 2.8V
R400,4005
CN4002
D 2.8V
NS LED A
A 4.6V
LANC DC
AU 2.8V
① TO POWER BLOCK DIAGRAM (2/2) (MA-421) (PAGE 3-11)
CN4004
XVTR MODE SW
XCAM MODE SW
XPHOTO STBY SW
VTR UNREG
AU 4.6V
AU 2.8V
RP 4.6V
RP 2.8V
A 2.8V
D 1.5V
IN1
USB 3.1V
D 1.9V
D 2.8V
MT 5V
A 4.6V
CAP VS
CAP ERROR
DRUM VS
DRUM ERROR
CAM DD ON
CAM 12V
CAM -6.5V
EP 13.3V
② TO POWER BLOCK DIAGRAM (2/2) (VC-312) (PAGE 3-11)
CN4003
EP 4.6V
EP 13.3V
EP 2.8V
BL REG
BL CONT
③ TO POWER BLOCK DIAGRAM (2/2) (PD-188) (PAGE 3-12)
LB-085 BOARD
LCD902
COLOR EVF UNIT
CN5602
CN5601
CN4201
FB4202
EP 13.3V
EP 2.8V
EP 4.6V
IC5601
BACK LIGHT DRIVE
(1/5)
IC4201
RGB DRIVE
(1/5)
IC4202
TIMING GENERATOR
LED ON/OFF
16

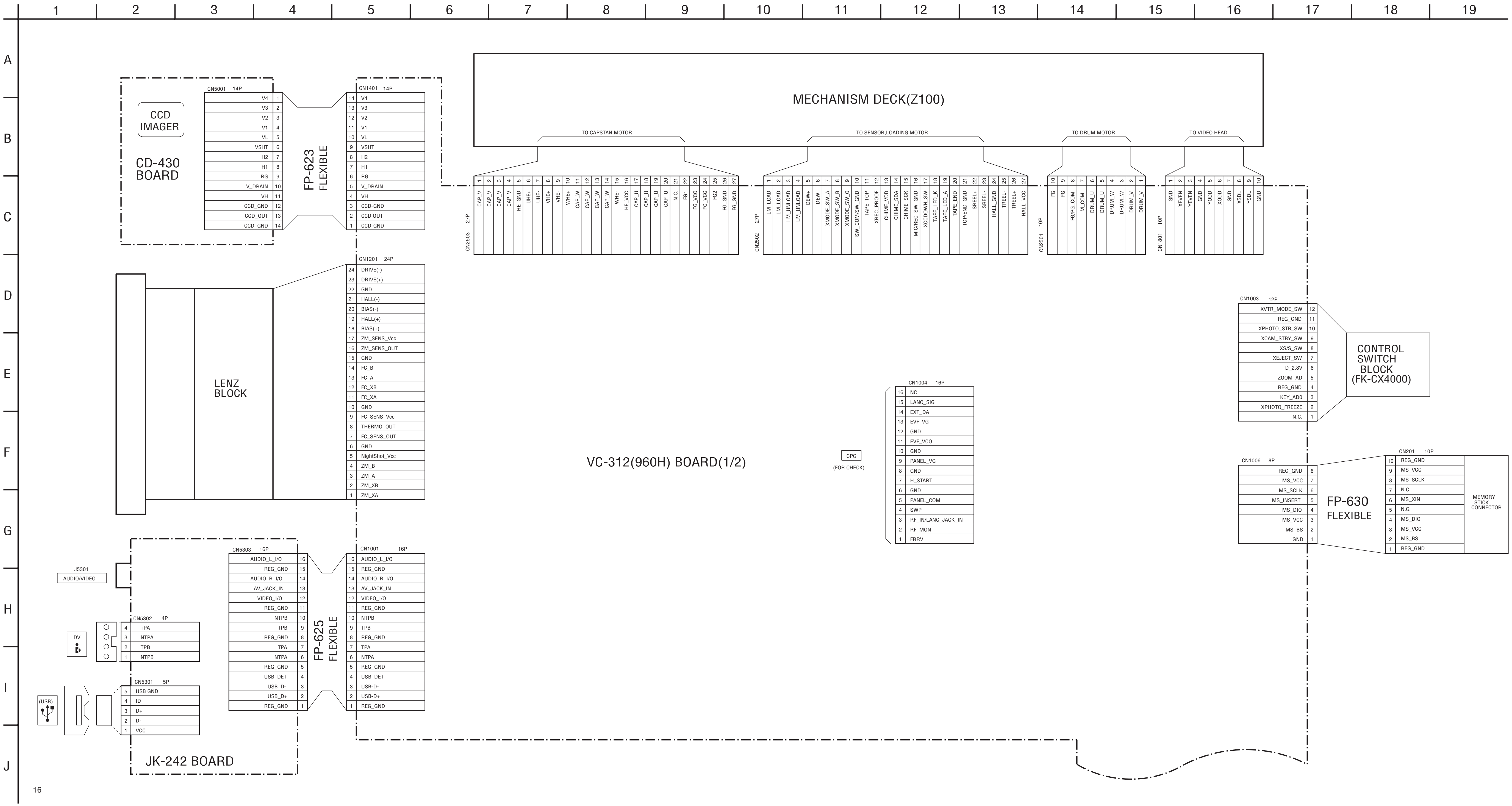
3-6. POWER BLOCK DIAGRAM (2/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

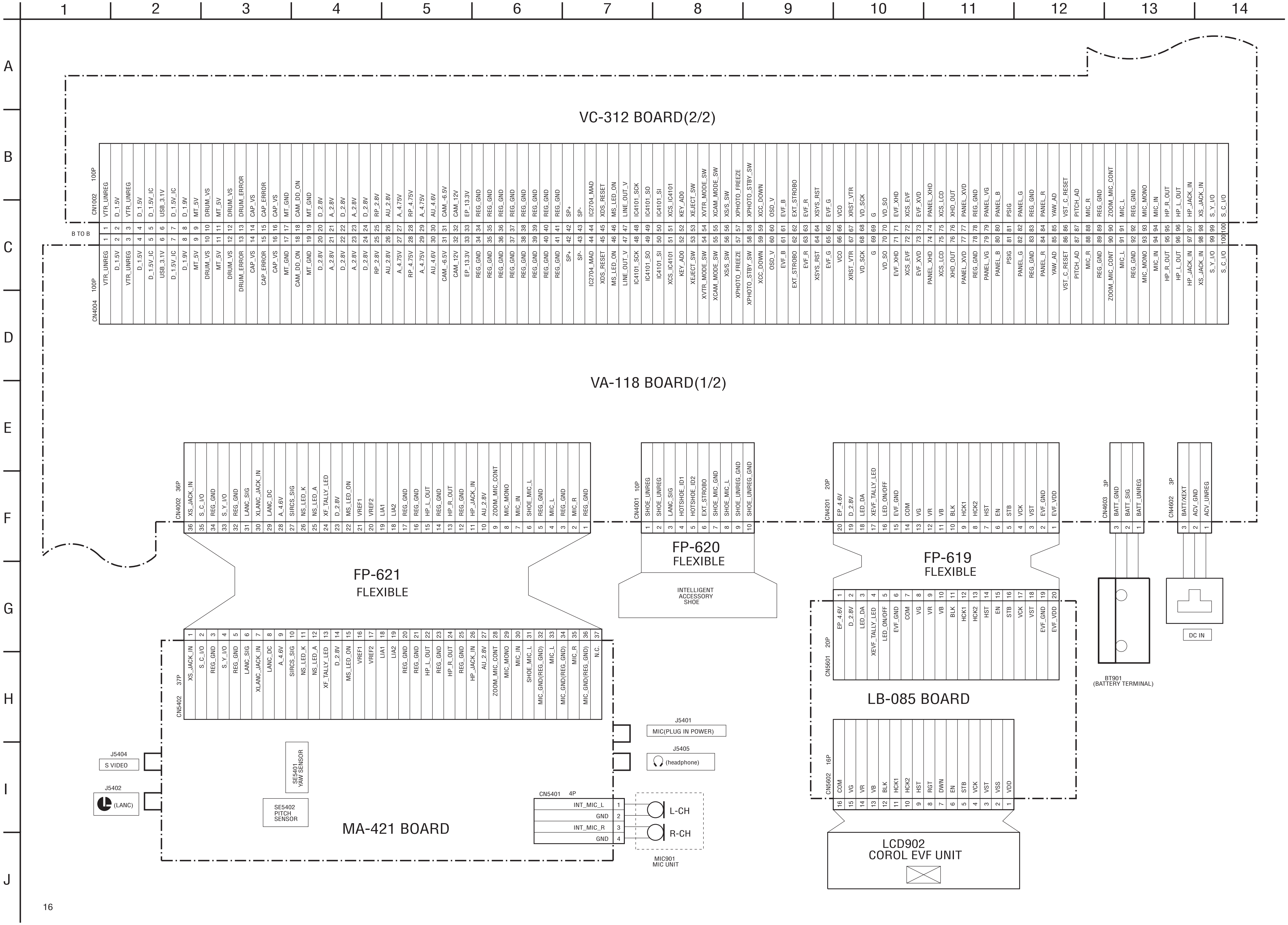

MA-421 BOARD
CN5402
D 2.8V
LED
NS LED A
A 4.6V
D5405
NIGHT SHOT LED
(2/2)
IC5401
REMOTE COMMANDER RECEIVER
LANC DC
(1/2)
IC5501
MIC AMP
SE5401, 5402
PITCH, YAW SENSOR
AU 2.8V
J5402
(LANC)
① TO POWER BLOCK DIAGRAM (1/2) (VA-118) (PAGE 3-10)
③ TO POWER BLOCK DIAGRAM (1/2) (VA-118) (PAGE 3-10)
PD-188 BOARD
EP 4.6V
EP 13.3V
EP 2.8V
FB6002
Q6003, 6004
CN6001
LCD901 2.5 INCH COLOR LCD UNIT
IC6001
RGB DRIVE
IC6002
TIMING GENERATOR
ND901 BACKLIGHT
IC6101,6102
INVERTER (BACK LIGHT DRIVE)
BL REG
BL CONT
BL HIGH
CN6201
CN6101
VC-312 BOARD
CONTROL SWITCH BLOCK(FK-CX4000)
RV001
ZOOM VR
VCR
OFF (CHG)
CAMERA
MEMORY
S1 POWER
CN1002
CN1003
XVTR MODE SW
XCAM MODE SW
XPHOTO STBY SW
VTR UNREG
REG
SP VCC
AU 4.6V
AU 2.8V
D 2.8V
D 1.5V
CAM DO IN
L1002
D 1..5V (IC2704)
(13/14) IC3001 AUDIO I/O
(13/14) IC2901 AUDIO D/A CONV. A/D CONV.
(4/14) IC2104 BUFFER
(12/14) IC2602 EEPROM
(12/14) IC2601 CAMERA CONTROL MECHA CONTROL
ZM RST LED
FC RST LED
XREEL HALL ON
(14/14) IC1002 3.3V REG
MT 5V
MS VCC
CN1006
FP-630(FLEXIBLE)
CN201
MEMORY STICK
MS VCC ON
CAM DD ON
CHIME PWR CONT
(5/14) IC2704 HI CONTROL DIGITAL STILL CONTROL
(5/14) IC2701 EEPROM
(5/14) IC2703 XTAL OSC
(5/14) IC2705 NAND
(6/14) IC2803 16M FLASH MEMORY
(6/14) IC2801 16M SDRAM
A 1.5V
D1.5V
D2.8V
USB 3.1V
FB2703
FB2801
RP 4.6V
(9/14) IC1801 REC/PB AMP
(7/14) IC2301 DV SIGNAL PROCESS RF SIGNAL PROCESS
(3/14) IC2101 CAMERA PROCESS DV SIGNAL PROCESS MPEG MOVE PROCESS DIGITAL STILL PROCESS AUDIO SIGNAL PROCESS
(4/14) IC2102 16Mbit SDRAM
(10/14) IC2001 VIDEO A/D CONV.
② TO POWER BLOCK DIAGRAM (1/2)(VA-118) (PAGE 3-10)
RP 2.8V
A 2.8V
D 1.5V
INT1
USB 3.1V
D 1.9V
A 1.5V
D 1.5V IC
L1001
(11/14) IC2501
CAPSTAN MOTOR DRIVE CAPSTAN FG AMP DRUM MOTOR DRIVE DRUM FG,PG AMP LOADING MOTOR DRIVE REEL FG AMP TAPE TOP,END DET DRUM,CAP ERROR AMP
EP 13.3V
CAP VS
CAP ERROR
DRUM VS
Q2705
Q2501
CHIME VDD
SENSOR VCC
4PIN CONNECTOR
MIC902
T REEL, S REEL SENSOR
D901
TAPE LED
TAPE LED A
R2515
CHIME PWR CONT
XREEL HALL ON
CN2502
Z MECHA DECK
VTR UNREG
MT 5V
A 4.6V
CAP VS
CAP ERROR
DRUM VS
DRUM ERROR
CAM DO ON
CAM 12V
CAM -6.5V
EP 13.3V
A 4.6V
D 1.9V
(1/14) IC1401 TIMING GENERATOR
(1/14) IC1402 S/H,AGC A/D CONV.
CAM 15V
CAM -7.5V
CN1401
CD-430 BOARD
CN5001
IC5001 CCD IMAGER
(8/14) IC2201 DV INTERFACE
(10/14) IC1901 VIDEO IN/OUT AGC ACC
(9/14) IC1701 EVR
(2/14) IC1203 FOCUS/ZOOM MOTOR DRIVE SHUTTER DRIVE
(2/14) IC1201 IC1202 IRIS DRIVE HALL AMP
FC RST LED
Q1202(1/2)
FC SENS VCC
D2.8V
ZM RST LED
Q1202(2/2)
ZM SENS VCC
CN1201
LENS ASSY
FOCUS RESET SENSOR
ZOOM RESET SENSOR

SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM (1/3)


MECHANISM DECK(Z100)
TO CAPSTAN MOTOR
TO SENSOR,LOADING MOTOR
TO DRUM MOTOR
TO VIDEO HEAD
CCD IMAGER
CD-430 BOARD
CN5001 14P
V4, V3, V2, V1, VL, VSHT, H2, H1, RG, V_DRAIN, VH, CCD_GND, CCD_OUT, CCD_GND
FP-623 FLEXIBLE
CN1401 14P
V4, V3, V2, V1, VL, VSHT, H2, H1, RG, V_DRAIN, VH, CCD-GND, CCD OUT, CCD-GND
CN2503 27P
CAP_V, CAP_V, CAP_V, CAP_V, HE_GND, UHE+, UHE-, VHE+, VHE-, WHE+, CAP_W, CAP_W, CAP_W, CAP_W, WHE-, HE_VCC, CAP_U, CAP_U, CAP_U, CAP_U, N.C., FG1, FG_VCC, FG_VCC, FG2, FG_GND, FG_GND
CN2502 27P
LM_LOAD, LM_LOAD, LM_UNLOAD, LM_UNLOAD, DEW+, DEW-, XMODE_SW_A, XMODE_SW_B, XMODE_SW_C, SW_COM/SW_GND, TAPE_TOP, XREC_PROOF, CHIME_VDD, CHIME_SDA, CHIME_SCK, MIC/REC_SW_GND, XCCDOWN_SW, TAPE_LED_K, TAPE_LED_A, TAPE_END, TOP/END_GND, SREEL+, SREEL-, HALL_GND, TREEL-, TREEL+, HALL_VCC
CN2501 10P
FG, PG, FG/PG_COM, M_COM, DRUM_U, DRUM_U, DRUM_W, DRUM_W, DRUM_V, DRUM_V
CN1801 10P
GND, XEVEN, YEVEN, GND, YODD, XODD, GND, XSDL, YSDL, GND
LENZ BLOCK
CN1201 24P
DRIVE(-), DRIVE(+), GND, HALL(-), BIAS(-), HALL(+), BIAS(+), ZM_SENS_Vcc, ZM_SENS_OUT, GND, FC_B, FC_A, FC_XB, FC_XA, GND, FC_SENS_Vcc, THERMO_OUT, FC_SENS_OUT, GND, NightShot_Vcc, ZM_B, ZM_A, ZM_XB, ZM_XA
VC-312(960H) BOARD(1/2)
CPC (FOR CHECK)
CN1004 16P
NC, LANC_SIG, EXT_DA, EVF_VG, GND, EVF_VCO, GND, PANEL_VG, GND, H_START, GND, PANEL_COM, SWP, RF_IN/LANC_JACK_IN, RF_MON, FRRV
CN1003 12P
XVTR_MODE_SW, REG_GND, XPHOTO_STB_SW, XCAM_STBY_SW, XS/S_SW, XEJECT_SW, D_2.8V, ZOOM_AD, REG_GND, KEY_AD0, XPHOTO_FREEZE, N.C.
CONTROL SWITCH BLOCK (FK-CX4000)
CN1006 8P
REG_GND, MS_VCC, MS_SCLK, MS_INSERT, MS_DIO, MS_VCC, MS_BS, GND
FP-630 FLEXIBLE
CN201 10P
REG_GND, MS_VCC, MS_SCLK, N.C., MS_XIN, N.C., MS_DIO, MS_VCC, MS_BS, REG_GND
MEMORY STICK CONNECTOR
J5301 AUDIO/VIDEO
DV
(USB)
CN5302 4P
TPA, NTPA, TPB, NTPB
CN5301 5P
USB GND, ID, D+, D-, VCC
CN5303 16P
AUDIO_L_I/O, REG_GND, AUDIO_R_I/O, AV_JACK_IN, VIDEO_I/O, REG_GND, NTPB, TPB, REG_GND, TPA, NTPA, REG_GND, USB_DET, USB_D-, USB_D+, REG_GND
FP-625 FLEXIBLE
CN1001 16P
AUDIO_L_I/O, REG_GND, AUDIO_R_I/O, AV_JACK_IN, VIDEO_I/O, REG_GND, NTPB, TPB, REG_GND, TPA, NTPA, REG_GND, USB_DET, USB-D-, USB-D+, REG_GND
JK-242 BOARD
16

FRAME SCHEMATIC DIAGRAM (2/3)


1
2
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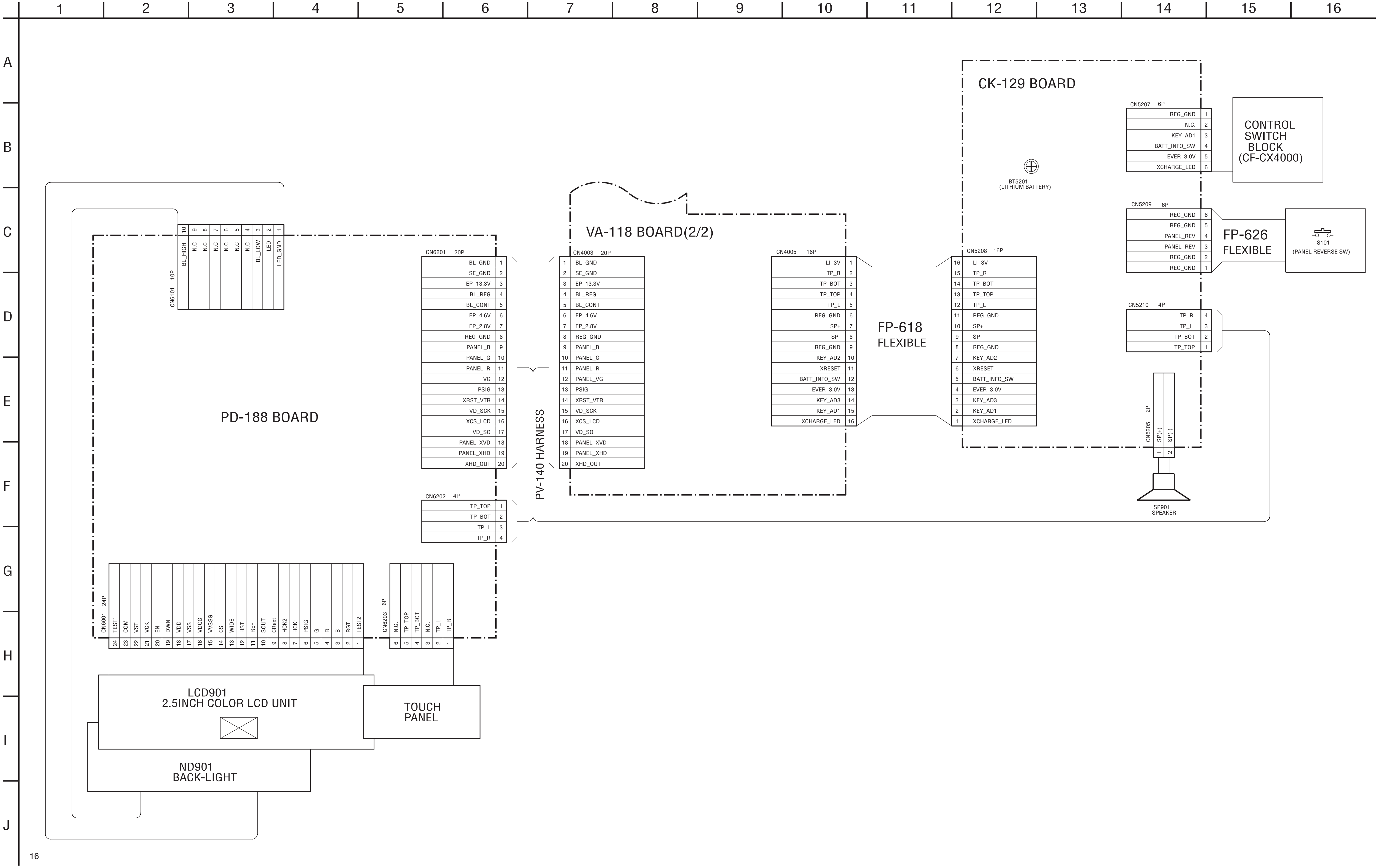
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
VC-312 BOARD(2/2)
CN1002 100P
1 VTR_UNREG
2 D_1.5V
3 VTR_UNREG
4 D_1.5V
5 D_1.5V_IC
6 USB_3.1V
7 D_1.5V_IC
8 D_1.9V
9 MT_5V
10 DRUM_VS
11 MT_5V
12 DRUM_VS
13 DRUM_ERROR
14 CAP_VS
15 CAP_ERROR
16 CAP_VS
17 MT_GND
18 CAM_DD_ON
19 MT_GND
20 D_2.8V
21 A_2.8V
22 D_2.8V
23 A_2.8V
24 D_2.8V
25 RP_2.8V
26 AU_2.8V
27 A_4.75V
28 RP_4.75V
29 A_4.75V
30 AU_4.6V
31 CAM_-6.5V
32 CAM_12V
33 EP_13.3V
34 REG_GND
35 REG_GND
36 REG_GND
37 REG_GND
38 REG_GND
39 REG_GND
40 REG_GND
41 REG_GND
42 SP+
43 SP-
44 IC2704_MAD
45 XDS_RESET
46 MS_LED_ON
47 LINE_OUT_V
48 IC4101_SCK
49 IC4101_SO
50 IC4101_SI
51 XCS_IC4101
52 KEY_AD0
53 XEJECT_SW
54 XVTR_MODE_SW
55 XCAM_MODE_SW
56 XS/S_SW
57 XPHOTO_FREEZE
58 XPHOTO_STBY_SW
59 XCC_DOWN
60 OSD_V
61 EVF_B
62 EXT_STROBO
63 EVF_R
64 XSYS_RST
65 EVF_G
66 VCO
67 XRST_VTR
68 VD_SCK
69 G
70 VD_SO
71 EVF_XHD
72 XCS_EVF
73 EVF_XVD
74 PANEL_XHD
75 XCS_LCD
76 XHD_OUT
77 PANEL_XVD
78 REG_GND
79 PANEL_VG
80 PANEL_B
81 PSIG
82 PANEL_G
83 REG_GND
84 PANEL_R
85 YAW_AD
86 VST_C_RESET
87 PITCH_AD
88 MIC_R
89 REG_GND
90 ZOOM_MIC_CONT
91 MIC_L
92 REG_GND
93 MIC_MONO
94 MIC_IN
95 HP_R_OUT
96 HP_L_OUT
97 HP_JACK_IN
98 XS_JACK_IN
99 S_Y_I/O
100 S_C_I/O
B TO B
CN4004 100P
1 VTR_UNREG
2 D_1.5V
3 VTR_UNREG
4 D_1.5V
5 D_1.5V_IC
6 USB_3.1V
7 D_1.5V_IC
8 D_1.9V
9 MT_5V
10 DRUM_VS
11 MT_5V
12 DRUM_VS
13 DRUM_ERROR
14 CAP_VS
15 CAP_ERROR
16 CAP_VS
17 MT_GND
18 CAM_DD_ON
19 MT_GND
20 D_2.8V
21 A_2.8V
22 D_2.8V
23 A_2.8V
24 D_2.8V
25 RP_2.8V
26 AU_2.8V
27 A_4.75V
28 RP_4.75V
29 A_4.75V
30 AU_4.6V
31 CAM_-6.5V
32 CAM_12V
33 EP_13.3V
34 REG_GND
35 REG_GND
36 REG_GND
37 REG_GND
38 REG_GND
39 REG_GND
40 REG_GND
41 REG_GND
42 SP+
43 SP-
44 IC2704_MAD
45 XDS_RESET
46 MS_LED_ON
47 LINE_OUT_V
48 IC4101_SCK
49 IC4101_SO
50 IC4101_SI
51 XCS_IC4101
52 KEY_AD0
53 XEJECT_SW
54 XVTR_MODE_SW
55 XCAM_MODE_SW
56 XS/S_SW
57 XPHOTO_FREEZE
58 XPHOTO_STBY_SW
59 XCC_DOWN
60 OSD_V
61 EVF_B
62 EXT_STROBO
63 EVF_R
64 XSYS_RST
65 EVF_G
66 VCO
67 XRST_VTR
68 VD_SCK
69 G
70 VD_SO
71 EVF_XHD
72 XCS_EVF
73 EVF_XVD
74 PANEL_XHD
75 XCS_LCD
76 XHD_OUT
77 PANEL_XVD
78 REG_GND
79 PANEL_VG
80 PANEL_B
81 PSIG
82 PANEL_G
83 REG_GND
84 PANEL_R
85 YAW_AD
86 VST_C_RESET
87 PITCH_AD
88 MIC_R
89 REG_GND
90 ZOOM_MIC_CONT
91 MIC_L
92 REG_GND
93 MIC_MONO
94 MIC_IN
95 HP_R_OUT
96 HP_L_OUT
97 HP_JACK_IN
98 XS_JACK_IN
99 S_Y_I/O
100 S_C_I/O
VA-118 BOARD(1/2)
CN4002 36P
36 XS_JACK_IN
35 S_C_I/O
34 REG_GND
33 S_Y_I/O
32 REG_GND
31 LANC_SIG
30 XLANC_JACK_IN
29 LANC_DC
28 A_4.6V
27 SIRCS_SIG
26 NS_LED_K
25 NS_LED_A
24 XF_TALLY_LED
23 D_2.8V
22 MS_LED_ON
21 VREF1
20 VREF2
19 LIA1
18 LIA2
17 REG_GND
16 REG_GND
15 HP_L_OUT
14 REG_GND
13 HP_R_OUT
12 REG_GND
11 HP_JACK_IN
10 AU_2.8V
9 ZOOM_MIC_CONT
8 MIC_MONO
7 MIC_IN
6 SHOE_MIC_L
5 REG_GND
4 MIC_L
3 REG_GND
2 MIC_R
1 REG_GND
CN4001 10P
1 SHOE_UNREG
2 SHOE_UNREG
3 LANC_SIG
4 HOTSHOE_ID1
5 HOTSHOE_ID2
6 EXT_STROBO
7 SHOE_MIC_GND
8 SHOE_MIC_L
9 SHOE_UNREG_GND
10 SHOE_UNREG_GND
CN4201 20P
20 EP_4.6V
19 D_2.8V
18 LED_DA
17 XEVF_TALLY_LED
16 LED_ON/OFF
15 EVF_GND
14 COM
13 VG
12 VR
11 VB
10 BLK
9 HCK1
8 HCK2
7 HST
6 EN
5 STB
4 VCK
3 VST
2 EVF_GND
1 EVF_VDD
CN4603 3P
3 BATT_GND
2 BATT_SIG
1 BATT_UNREG
CN4602 3P
3 BATT/XEXT
2 ACV_GND
1 ACV_UNREG
FP-621
FLEXIBLE
FP-620
FLEXIBLE
INTELLIGENT ACCESSORY SHOE
FP-619
FLEXIBLE
CN5402 37P
1 XS_JACK_IN
2 S_C_I/O
3 REG_GND
4 S_Y_I/O
5 REG_GND
6 LANC_SIG
7 XLANC_JACK_IN
8 LANC_DC
9 A_4.6V
10 SIRCS_SIG
11 NS_LED_K
12 NS_LED_A
13 XF_TALLY_LED
14 D_2.8V
15 MS_LED_ON
16 VREF1
17 VREF2
18 LIA1
19 LIA2
20 REG_GND
21 REG_GND
22 HP_L_OUT
23 REG_GND
24 HP_R_OUT
25 REG_GND
26 HP_JACK_IN
27 AU_2.8V
28 ZOOM_MIC_CONT
29 MIC_MONO
30 MIC_IN
31 SHOE_MIC_L
32 MIC_GND(REG_GND)
33 MIC_L
34 MIC_GND(REG_GND)
35 MIC_R
36 MIC_GND(REG_GND)
37 N.C.
J5404
S VIDEO
J5402
(LANC)
SE5401
YAW SENSOR
SE5402
PITCH
SENSOR
MA-421 BOARD
J5401
MIC(PLUG IN POWER)
J5405
(headphone)
CN5401 4P
1 INT_MIC_L
2 GND
3 INT_MIC_R
4 GND
L-CH
R-CH
MIC901
MIC UNIT
CN5601 20P
1 EP_4.6V
2 D_2.8V
3 LED_DA
4 XEVF_TALLY_LED
5 LED_ON/OFF
6 EVF_GND
7 COM
8 VG
9 VR
10 VB
11 BLK
12 HCK1
13 HCK2
14 HST
15 EN
16 STB
17 VCK
18 VST
19 EVF_GND
20 EVF_VDD
LB-085 BOARD
CN5602 16P
16 COM
15 VG
14 VR
13 VB
12 BLK
11 HCK1
10 HCK2
9 HST
8 RGT
7 DWN
6 EN
5 STB
4 VCK
3 VST
2 VSS
1 VDD
LCD902
COROL EVF UNIT
BT901
(BATTERY TERMINAL)
DC IN
16

FRAME SCHEMATIC DIAGRAM (3/3)


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J
CK-129 BOARD
CN5207 6P
REG_GND 1
N.C. 2
KEY_AD1 3
BATT_INFO_SW 4
EVER_3.0V 5
XCHARGE_LED 6
CONTROL SWITCH BLOCK (CF-CX4000)
BT5201 (LITHIUM BATTERY)
CN5209 6P
REG_GND 6
REG_GND 5
PANEL_REV 4
PANEL_REV 3
REG_GND 2
REG_GND 1
FP-626 FLEXIBLE
S101 (PANEL REVERSE SW)
CN5210 4P
TP_R 4
TP_L 3
TP_BOT 2
TP_TOP 1
CN5205 2P
SP(+) 1
SP(-) 2
SP901 SPEAKER
CN5208 16P
16 LI_3V
15 TP_R
14 TP_BOT
13 TP_TOP
12 TP_L
11 REG_GND
10 SP+
9 SP-
8 REG_GND
7 KEY_AD2
6 XRESET
5 BATT_INFO_SW
4 EVER_3.0V
3 KEY_AD3
2 KEY_AD1
1 XCHARGE_LED
FP-618 FLEXIBLE
VA-118 BOARD(2/2)
CN4005 16P
LI_3V 1
TP_R 2
TP_BOT 3
TP_TOP 4
TP_L 5
REG_GND 6
SP+ 7
SP- 8
REG_GND 9
KEY_AD2 10
XRESET 11
BATT_INFO_SW 12
EVER_3.0V 13
KEY_AD3 14
KEY_AD1 15
XCHARGE_LED 16
CN4003 20P
1 BL_GND
2 SE_GND
3 EP_13.3V
4 BL_REG
5 BL_CONT
6 EP_4.6V
7 EP_2.8V
8 REG_GND
9 PANEL_B
10 PANEL_G
11 PANEL_R
12 PANEL_VG
13 PSIG
14 XRST_VTR
15 VD_SCK
16 XCS_LCD
17 VD_SO
18 PANEL_XVD
19 PANEL_XHD
20 XHD_OUT
PV-140 HARNESS
PD-188 BOARD
CN6201 20P
BL_GND 1
SE_GND 2
EP_13.3V 3
BL_REG 4
BL_CONT 5
EP_4.6V 6
EP_2.8V 7
REG_GND 8
PANEL_B 9
PANEL_G 10
PANEL_R 11
VG 12
PSIG 13
XRST_VTR 14
VD_SCK 15
XCS_LCD 16
VD_SO 17
PANEL_XVD 18
PANEL_XHD 19
XHD_OUT 20
CN6202 4P
TP_TOP 1
TP_BOT 2
TP_L 3
TP_R 4
CN6101 10P
10 BL_HIGH
9 N.C
8 N.C
7 N.C
6 N.C
5 N.C
4 N.C
3 BL_LOW
2 LED
1 LED_GND
CN6001 24P
24 TEST1
23 COM
22 VST
21 VCK
20 EN
19 DWN
18 VDD
17 VSS
16 VDDG
15 VVSSG
14 CS
13 WIDE
12 HST
11 REF
10 SOUT
9 CRext
8 HCK2
7 HCK1
6 PSIG
5 G
4 R
3 B
2 RGT
1 TEST2
CN6203 6P
6 N.C.
5 TP_TOP
4 TP_BOT
3 N.C.
2 TP_L
1 TP_R
LCD901 2.5INCH COLOR LCD UNIT
TOUCH PANEL
ND901 BACK-LIGHT
16

COVER

4-2. SCHEMATIC DIAGRAMS

Link

- CD-430 BOARD (CCD IMAGER)
- LB-085 BOARD (EVF, BACK LIGHT)
- VA-118 BOARD (1/5) (RGB DRIVE, TG)
- VA-118 BOARD (2/5) (HI CONTROL)
- VA-118 BOARD (3/5) (Y/P SENSOR AMP, CONNECTOR)
- VA-118 BOARD (4/5) (DC/DC COVERTER)
- VA-118 BOARD (5/5) (POWER IN, CHARGE)
- CK-129 BOARD (FUNCTION SWITCH)
- PD-188 BOARD (1/2) (DRIVER, TG)
- PD-188 BOARD (2/2) (BACKLIGHT DRIVE)
- JK-242 BOARD (A.V/DV IN/OUT)
- CONTROL SWITCH BLOCK (FK-CX4000)
- MA-421 BOARD (1/2) (MIC AMP)
- MA-421 BOARD (2/2) (Y/P SENSOR, V/A IN/OUT)
- FP-467/468/228 FLEXIBLE (MD BLOCK)

- COMMON NOTE FOR SCHEMATIC DIAGRAMS
- WAVEFORMS

COVER

4-2. SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For schematic diagrams)

- All capacitors are in µF unless otherwise noted. pF : µ µF. 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10 W unless otherwise noted. kΩ=1000 Ω, MΩ=1000 kΩ.
- Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

Example	C541	L452
	22U	10UH
	TA A	2520

Kind of capacitor

Temperature characteristics

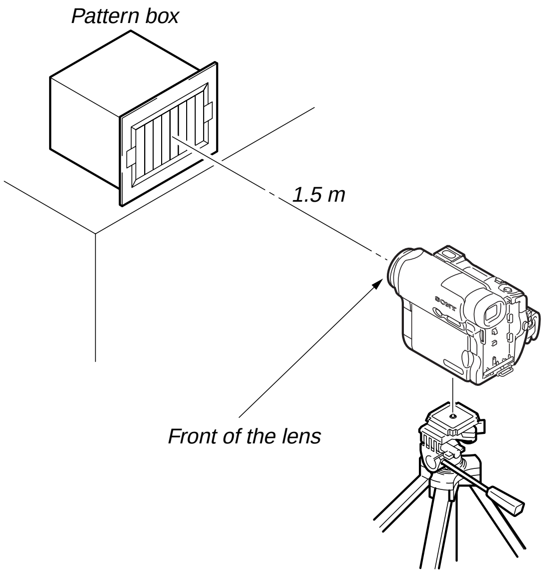
External dimensions (mm)

- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used. In such cases, the unused circuits may be indicated.
- Parts with * differ according to the model/destination. Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
- ─▭─ : non flammable resistor
- ─▭─ : fusible resistor
- ▭ : panel designation
- ▬ : B+ Line
- ▬ ▬ ▬ : B– Line
- ⇨ : IN/OUT direction of (+,–) B LINE.
- ▭ : adjustment for repair.
- ▬ : VIDEO SIGNAL (ANALOG)
- ▬ : AUDIO SIGNAL (ANALOG)
- ▬ : VIDEO/AUDIO SIGNAL
- ▬ : VIDEO/AUDIO/SERVO SIGNAL
- ▬ : SERVO SIGNAL
- Circled numbers refer to waveforms.

(Measuring conditions voltage and waveform)

- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms.
  (VOM of DC 10 MΩ input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

1. Connection



2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

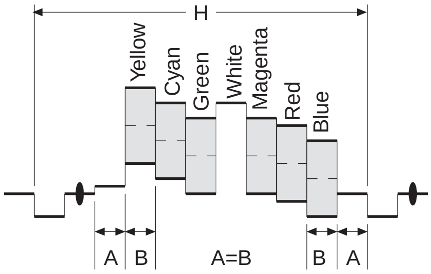


Fig. a (Video output terminal output waveform)

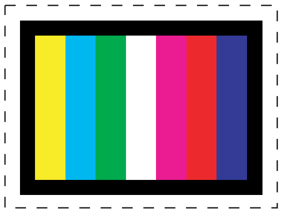


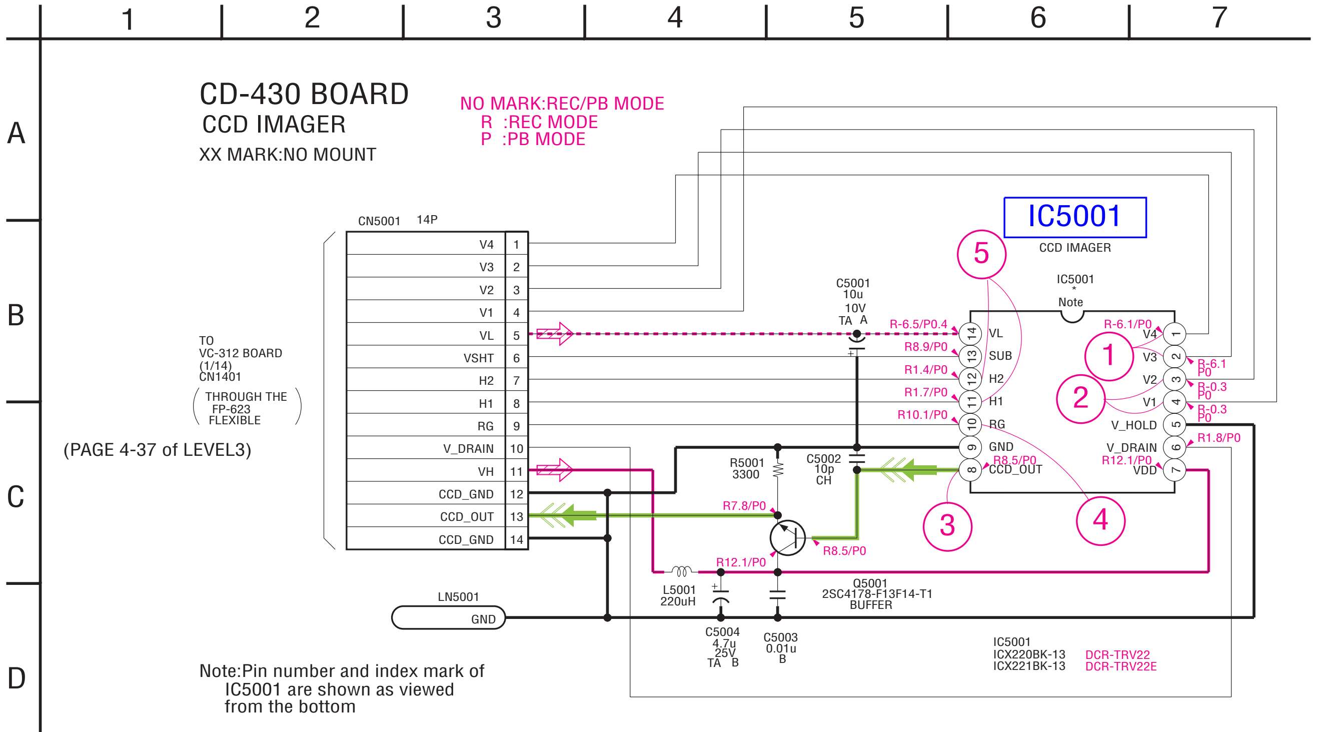
Fig.b (Picture on monitor TV)

When indicating parts by reference number, please include the board name.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-2. SCHEMATIC DIAGRAMS

For Schematic Diagram
- Refer to page 4-67 for printed wiring board of CD-430 board.
- Refer to page 4-69 for printed wiring board of LB-085 board.


CD-430 BOARD
CCD IMAGER
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
CN5001 14P
TO VC-312 BOARD (1/14) CN1401
THROUGH THE FP-623 FLEXIBLE
(PAGE 4-37 of LEVEL3)
IC5001
CCD IMAGER
C5001 10u 10V TA A
R5001 3300
C5002 10p CH
L5001 220uH
C5004 4.7u 25V TA B
C5003 0.01u B
Q5001 2SC4178-F13F14-T1 BUFFER
LN5001
IC5001 ICX220BK-13 DCR-TRV22
ICX221BK-13 DCR-TRV22E
Note:Pin number and index mark of IC5001 are shown as viewed from the bottom

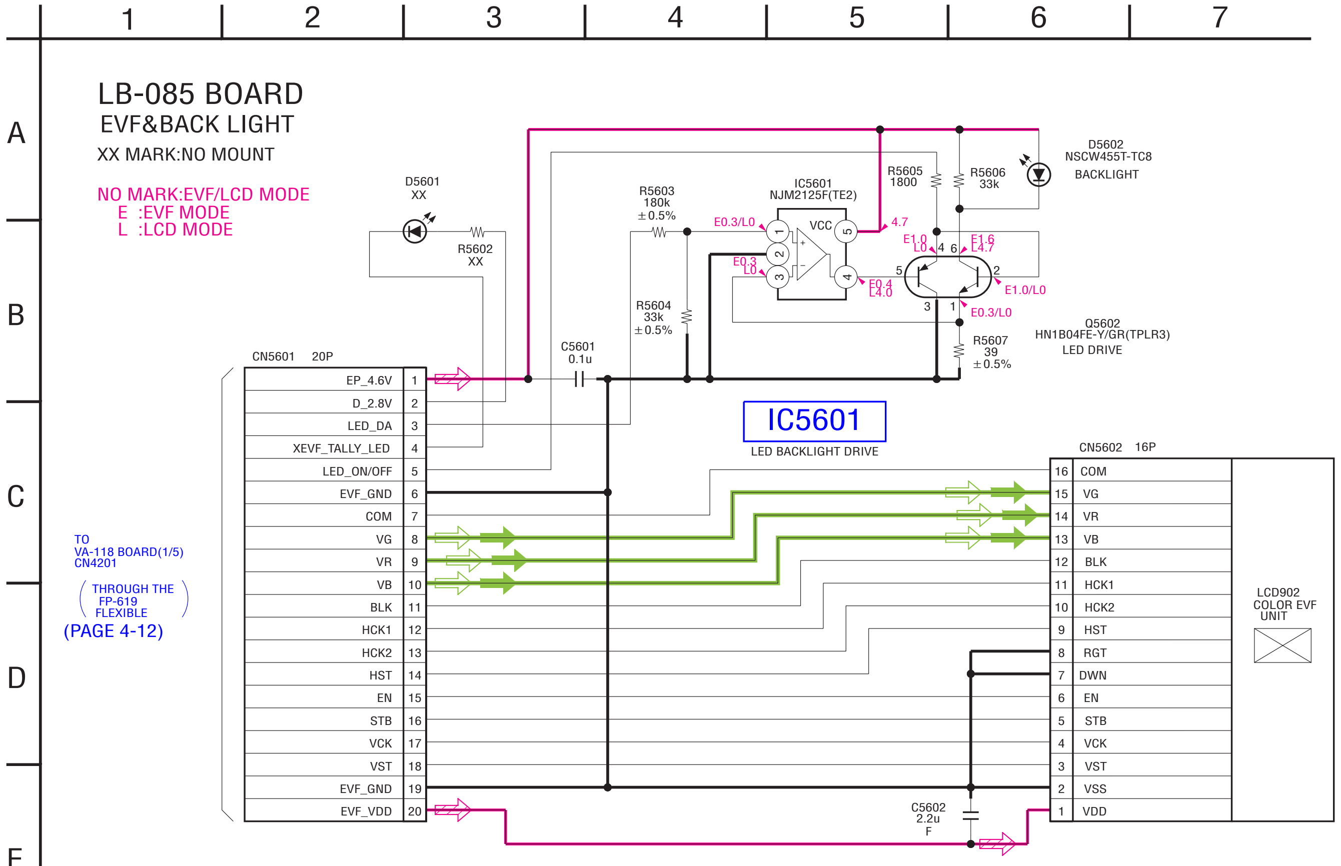
Precautions Upon Replacing CCD imager

- The CD-430 board mounted as a repair part is not equipped with a CCD imager.
  When replaching this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electrictiy from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strog light.

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			➡⇨
PB			

16


LB-085 BOARD
EVF&BACK LIGHT
XX MARK:NO MOUNT
NO MARK:EVF/LCD MODE
E :EVF MODE
L :LCD MODE
D5601 XX
R5602 XX
R5603 180k ±0.5%
R5604 33k ±0.5%
IC5601 NJM2125F(TE2)
R5605 1800
R5606 33k
D5602 NSCW455T-TC8 BACKLIGHT
Q5602 HN1B04FE-Y/GR(TPLR3) LED DRIVE
R5607 39 ±0.5%
C5601 0.1u
CN5601 20P
IC5601
LED BACKLIGHT DRIVE
CN5602 16P
LCD902 COLOR EVF UNIT
TO VA-118 BOARD(1/5) CN4201
THROUGH THE FP-619 FLEXIBLE
(PAGE 4-12)
C5602 2.2u F

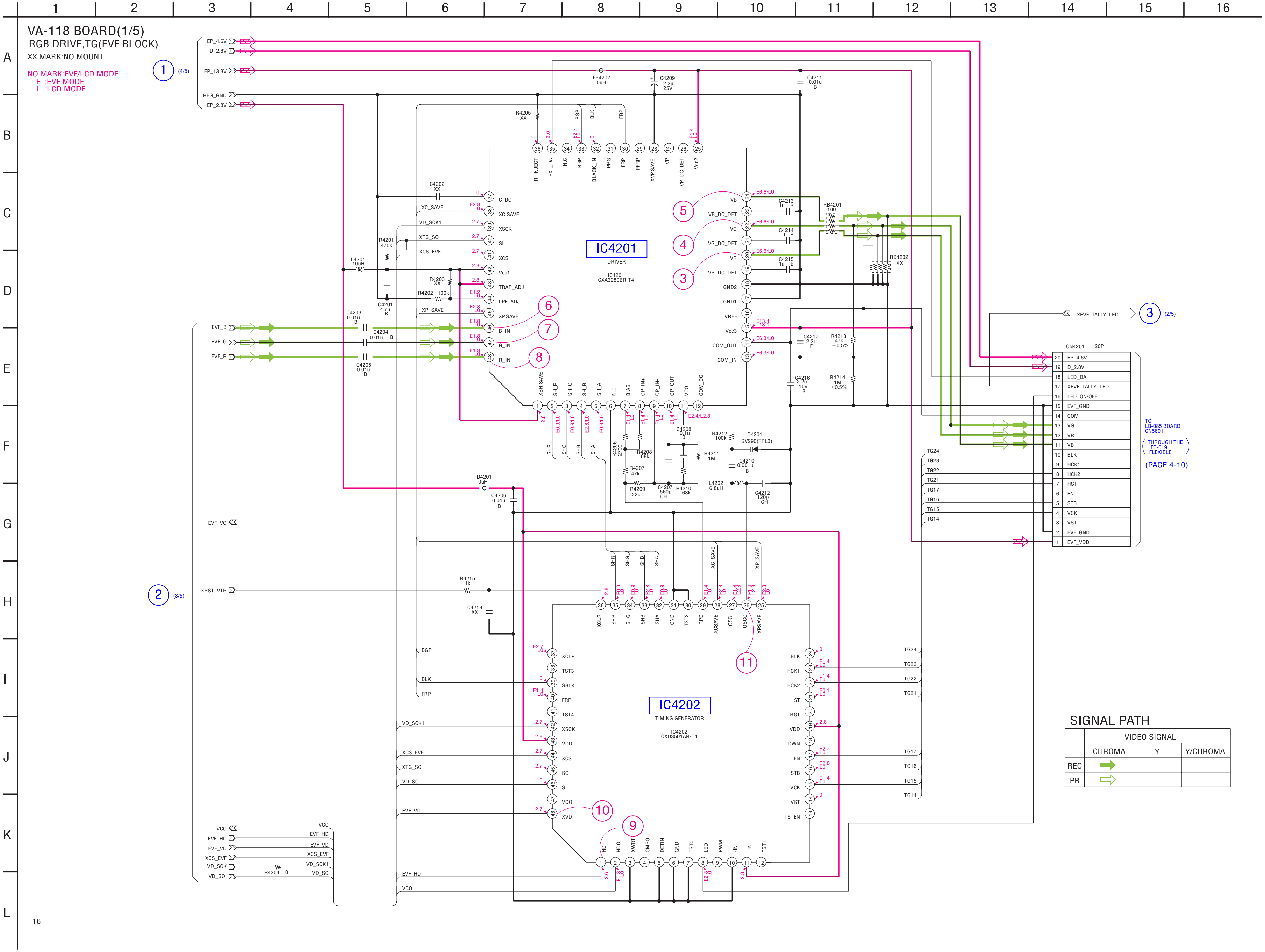
SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

16

For Schematic Diagram

• Refer to page 4-73 for printed wiring board.

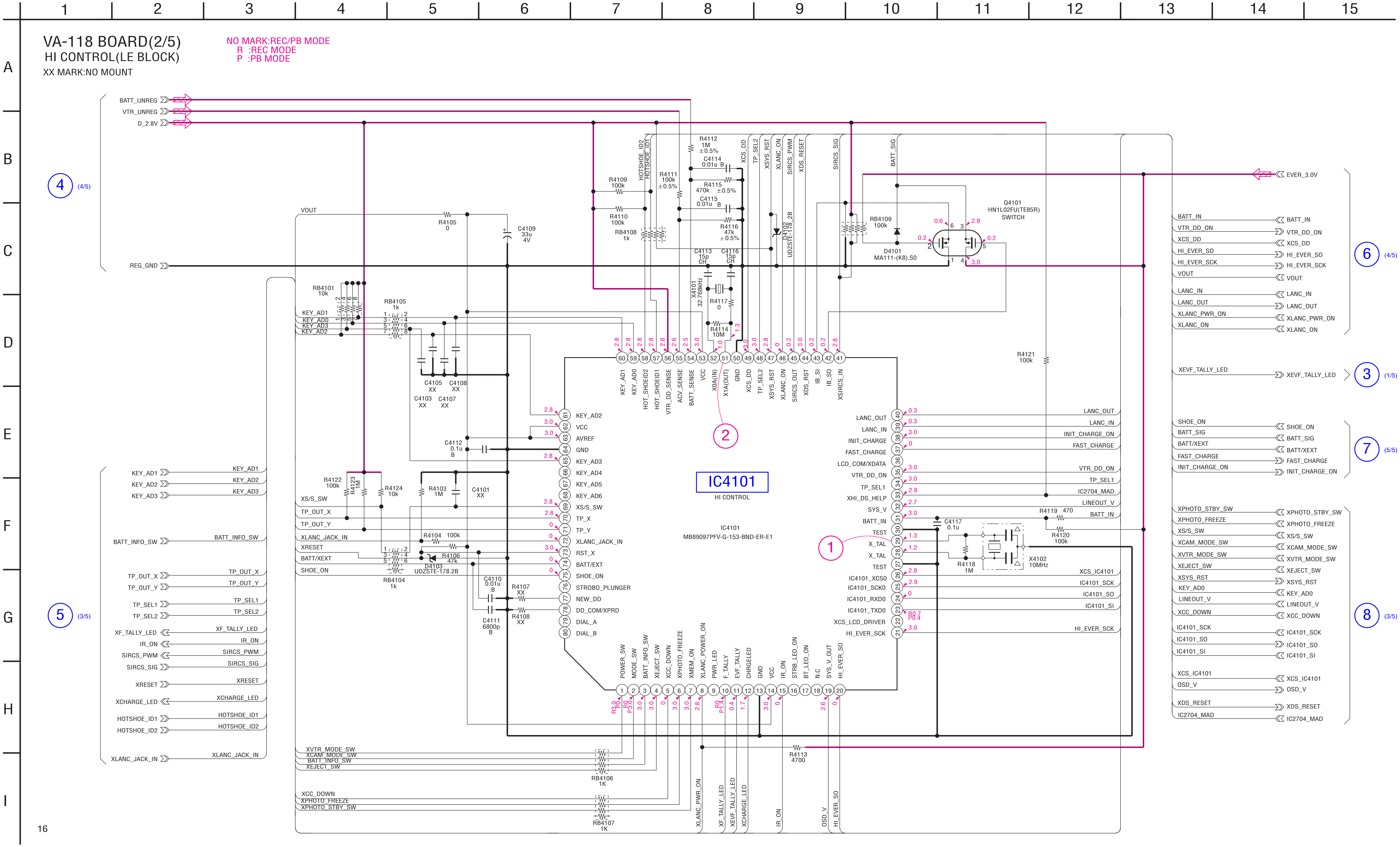

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J K L
VA-118 BOARD(1/5)
RGB DRIVE,TG(EVF BLOCK)
XX MARK:NO MOUNT
NO MARK:EVF/LCD MODE
E :EVF MODE
L :LCD MODE
1 (4/5)
EP_4.6V
D_2.8V
EP_13.3V
REG_GND
EP_2.8V
FB4202 0uH
C4209 2.2u 25V
C4211 0.01u B
R4205 XX
BGP
BLK
FRP
R_INJECT
EXT_DA
N.C
BGP
BLACK_IN
PRG
FRP
PFRP
XVP.SAVE
VP
VP_DC_DET
Vcc2
C4202 XX
XC_SAVE
VD_SCK1
XTG_SO
XCS_EVF
R4201 470k
L4201 10uH
R4203 XX
R4202 100k
C4201 4.7u B
XP_SAVE
C4203 0.01u B
C4204 0.01u B
C4205 0.01u B
EVF_B
EVF_G
EVF_R
C_BG
XC.SAVE
XSCK
SI
XCS
Vcc1
TRAP_ADJ
LPF_ADJ
XP.SAVE
B_IN
G_IN
R_IN
IC4201
DRIVER
IC4201 CXA3289BR-T4
VB
VB_DC_DET
VG
VG_DC_DET
VR
VR_DC_DET
GND2
GND1
VREF
Vcc3
COM_OUT
COM_IN
C4213 1u B
C4214 1u B
C4215 1u B
RB4201 100
RB4202 XX
C4217 2.2u F
R4213 47k ±0.5%
C4216 2.2u 10V B
R4214 1M ±0.5%
XSH.SAVE
SH_R
SH_G
SH_B
SH_A
N.C
BIAS
OP_IN+
OP_IN-
OP_OUT
VCO
COM_DC
5 4 3 6 7 8
SHR SHG SHB SHA
R4206 2700
R4208 68k
R4207 47k
R4209 22k
C4207 560p CH
R4210 68k
C4208 0.1u B
R4212 100k
R4211 1M
D4201 1SV290(TPL3)
C4210 0.001u B
L4202 6.8uH
C4212 120p CH
FB4201 0uH
C4206 0.01u B
EVF_VG
XEVF_TALLY_LED
3 (2/5)
CN4201 20P
20 EP_4.6V
19 D_2.8V
18 LED_DA
17 XEVF_TALLY_LED
16 LED_ON/OFF
15 EVF_GND
14 COM
13 VG
12 VR
11 VB
10 BLK
9 HCK1
8 HCK2
7 HST
6 EN
5 STB
4 VCK
3 VST
2 EVF_GND
1 EVF_VDD
TO LB-085 BOARD CN5601
THROUGH THE FP-619 FLEXIBLE
(PAGE 4-10)
TG24 TG23 TG22 TG21 TG17 TG16 TG15 TG14
2 (3/5)
XRST_VTR
R4215 1k
C4218 XX
XC_SAVE
XP_SAVE
XCLR SHR SHG SHB SHA GND TST2 RPD XCSAVE OSCI OSCO XPSAVE
BGP
BLK
FRP
XCLP
TST3
SBLK
FRP
TST4
XSCK
VDD
XCS
SO
SI
VDDO
XVD
IC4202
TIMING GENERATOR
IC4202 CXD3501AR-T4
BLK
HCK1
HCK2
HST
RGT
VDD
DWN
EN
STB
VCK
VST
TSTEN
11 10 9
VD_SCK1
XCS_EVF
XTG_SO
VD_SO
EVF_VD
HD HDO XWRT CMP0 DETIN GND TST0 LED PWM -IN +IN TST1
VCO
EVF_HD
EVF_VD
XCS_EVF
VD_SCK
VD_SO
R4204 0
VD_SCK1
EVF_HD
VCO
16

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

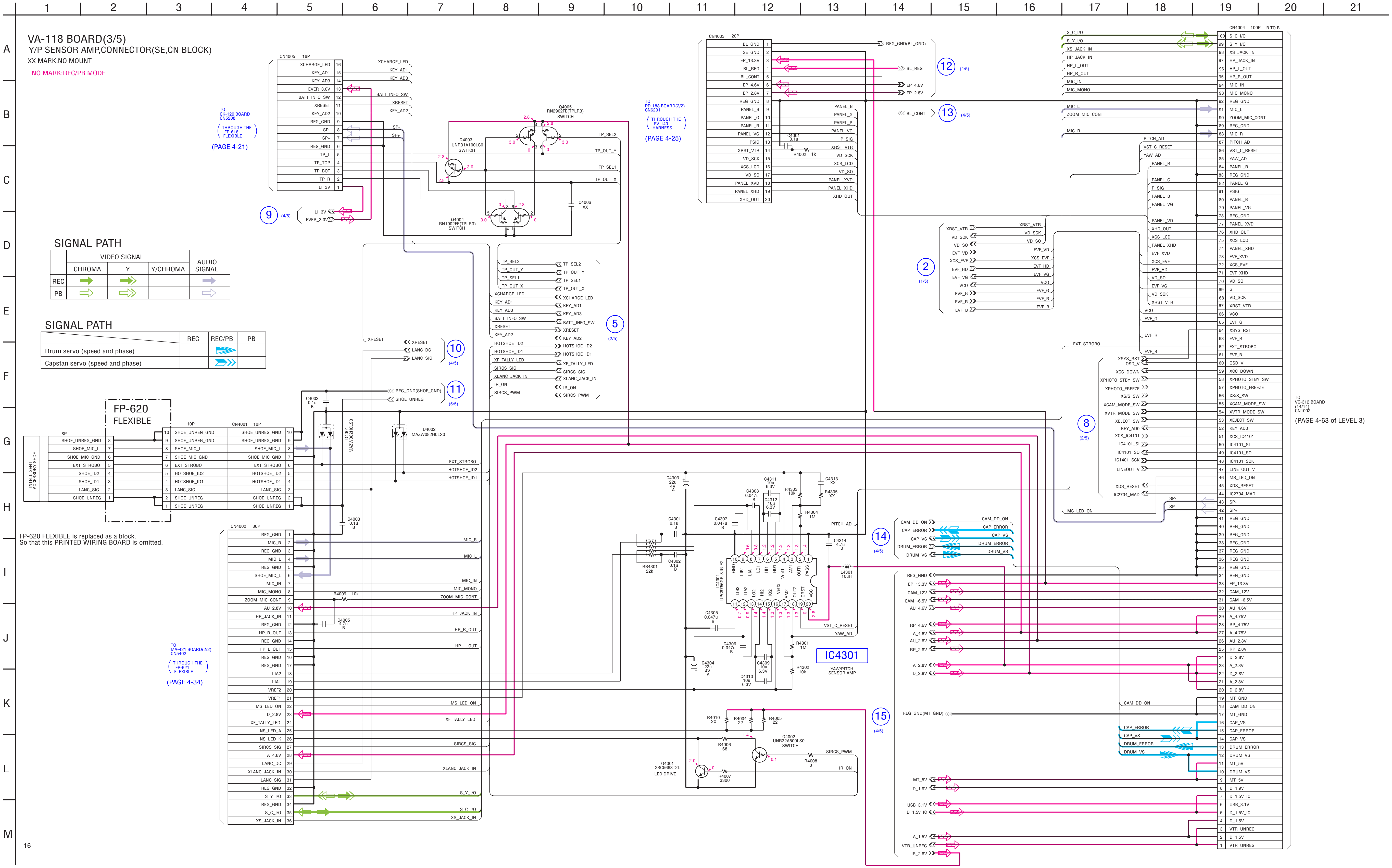
For Schematic Diagram

• Refer to page 4-73 for printed wiring board.


VA-118 BOARD(2/5)
HI CONTROL(LE BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
IC4101
HI CONTROL
IC4101
MB89097PFV-G-153-BND-ER-E1
Q4101
HN1L02FU(TE85R)
SWITCH
D4101
MA111-(K8).SO
X4101
32.768kHz
X4102
10MHz
D4103
UDZSTE-178.2B
BATT_UNREG
VTR_UNREG
D_2.8V
REG_GND
VOUT
KEY_AD1
KEY_AD2
KEY_AD3
BATT_INFO_SW
TP_OUT_X
TP_OUT_Y
TP_SEL1
TP_SEL2
XF_TALLY_LED
IR_ON
SIRCS_PWM
SIRCS_SIG
XRESET
XCHARGE_LED
HOTSHOE_ID1
HOTSHOE_ID2
XLANC_JACK_IN
EVER_3.0V
BATT_IN
VTR_DD_ON
XCS_DD
HI_EVER_SO
HI_EVER_SCK
LANC_IN
LANC_OUT
XLANC_PWR_ON
XLANC_ON
XEVF_TALLY_LED
SHOE_ON
BATT_SIG
BATT/XEXT
FAST_CHARGE
INIT_CHARGE_ON
XPHOTO_STBY_SW
XPHOTO_FREEZE
XS/S_SW
XCAM_MODE_SW
XVTR_MODE_SW
XEJECT_SW
XSYS_RST
KEY_AD0
LINEOUT_V
XCC_DOWN
IC4101_SCK
IC4101_SO
IC4101_SI
XCS_IC4101
OSD_V
XDS_RESET
IC2704_MAD
4 (4/5)
5 (3/5)
6 (4/5)
3 (1/5)
7 (5/5)
8 (3/5)
1
2
16

For Schematic Diagram

- Refer to page 4-73 for printed wiring board.


VA-118 BOARD(3/5)
Y/P SENSOR AMP,CONNECTOR(SE,CN BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
FP-620 FLEXIBLE
INTELLIGENT ACCESSORY SHOE
FP-620 FLEXIBLE is replaced as a block.
So that this PRINTED WIRING BOARD is omitted.
CN4005 16P
CN4001 10P
CN4002 36P
CN4003 20P
CN4004 100P B TO B
TO CK-129 BOARD CN5208 THROUGH THE FP-618 FLEXIBLE (PAGE 4-21)
TO PD-188 BOARD(2/2) CN6201 THROUGH THE PV-140 HARNESS (PAGE 4-25)
TO MA-421 BOARD(2/2) CN5402 THROUGH THE FP-621 FLEXIBLE (PAGE 4-34)
TO VC-312 BOARD (14/14) CN1002 (PAGE 4-63 of LEVEL 3)
Q4003 UNR31A100LS0 SWITCH
Q4004 RN1902FE(TPLR3) SWITCH
Q4005 RN2902FE(TPLR3) SWITCH
D4001 MAZW082H0LS0
D4002 MAZW082H0LS0
IC4301 UPC3756GR-9JG-E2
IC4301 YAW/PITCH SENSOR AMP
Q4001 2SC5663T2L LED DRIVE
Q4002 UNR32A500LS0 SWITCH
L4301 10uH
9 (4/5)
10 (4/5)
11 (5/5)
5 (2/5)
12 (4/5)
13 (4/5)
2 (1/5)
8 (2/5)
14 (4/5)
15 (4/5)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
A B C D E F G H I J K L M

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		➡
PB	⇨	⇨		⇨

SIGNAL PATH

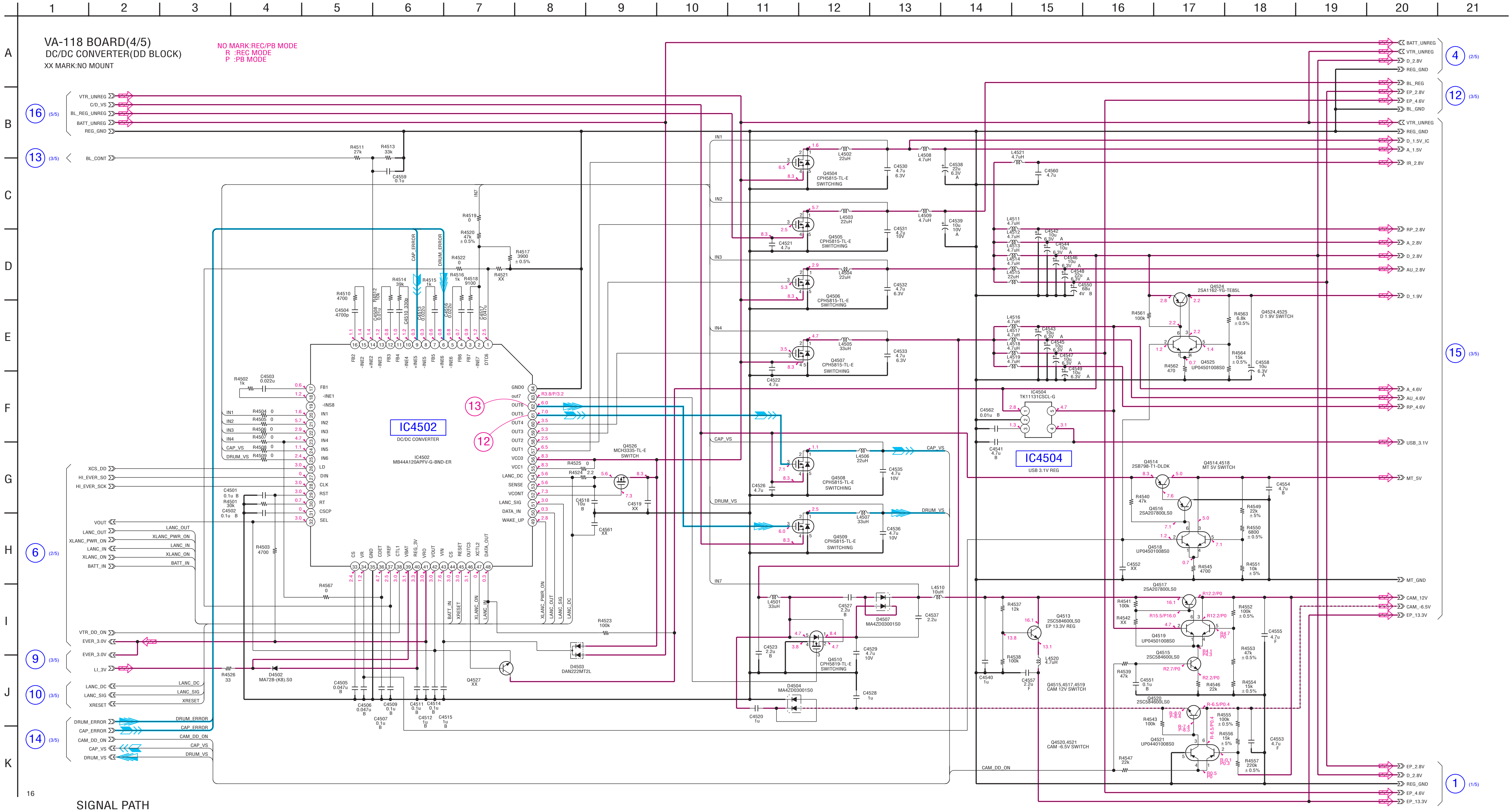
	REC	REC/PB	PB
Drum servo (speed and phase)		➡	
Capstan servo (speed and phase)		➡	

COVER

4-2. SCHEMATIC DIAGRAMS | VA-118 BOARD SIDE A | VA-118 BOARD SIDE B

For Schematic Diagram

- Refer to page 4-73 for printed wiring board.



VA-118 BOARD(4/5)
DC/DC CONVERTER(DD BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
IC4502
DC/DC CONVERTER
IC4502
MB44A120APFV-G-BND-ER
IC4504
USB 3.1V REG
IC4504
TK11131CSCL-G
Q4504 CPH5815-TL-E SWITCHING
Q4505 CPH5815-TL-E SWITCHING
Q4506 CPH5815-TL-E SWITCHING
Q4507 CPH5815-TL-E SWITCHING
Q4508 CPH5815-TL-E SWITCHING
Q4509 CPH5815-TL-E SWITCHING
Q4510 CPH5819-TL-E SWITCHING
Q4526 MCH3335-TL-E SWITCH
Q4524 2SA1162-YG-TE85L
Q4524,4525 D 1.9V SWITCH
Q4514,4518 MT 5V SWITCH
Q4513 2SC5584600LS0 EP 13.3V REG
Q4515,4517,4519 CAM 12V SWITCH
Q4520,4521 CAM -6.5V SWITCH
D4502 MA728-(K8).S0
D4503 DAN222MT2L
D4504 MA4ZD03001S0
D4507 MA4ZD03001S0
VTR_UNREG
C/D_VS
BL_REG_UNREG
BATT_UNREG
REG_GND
BL_CONT
XCS_DD
HI_EVER_SO
HI_EVER_SCK
VOUT
LANC_OUT
XLANC_PWR_ON
LANC_IN
XLANC_ON
BATT_IN
VTR_DD_ON
EVER_3.0V
LI_3V
LANC_DC
LANC_SIG
XRESET
DRUM_ERROR
CAP_ERROR
CAM_DD_ON
CAP_VS
DRUM_VS
BATT_UNREG
VTR_UNREG
D_2.8V
REG_GND
BL_REG
EP_2.8V
EP_4.6V
BL_GND
D_1.5V_IC
A_1.5V
IR_2.8V
RP_2.8V
A_2.8V
D_2.8V
AU_2.8V
D_1.9V
A_4.6V
AU_4.6V
RP_4.6V
USB_3.1V
MT_5V
MT_GND
CAM_12V
CAM_-6.5V
EP_13.3V
EP_2.8V
D_2.8V
REG_GND
EP_4.6V
EP_13.3V
16 (5/5)
13 (3/5)
6 (2/5)
9 (3/5)
10 (3/5)
14 (3/5)
4 (2/5)
12 (3/5)
15 (3/5)
1 (1/5)

SIGNAL PATH

	REC	REC/PB	PB
Drum servo (speed and phase)		⇛	
Capstan servo (speed and phase)		⇛	

For Schematic Diagram

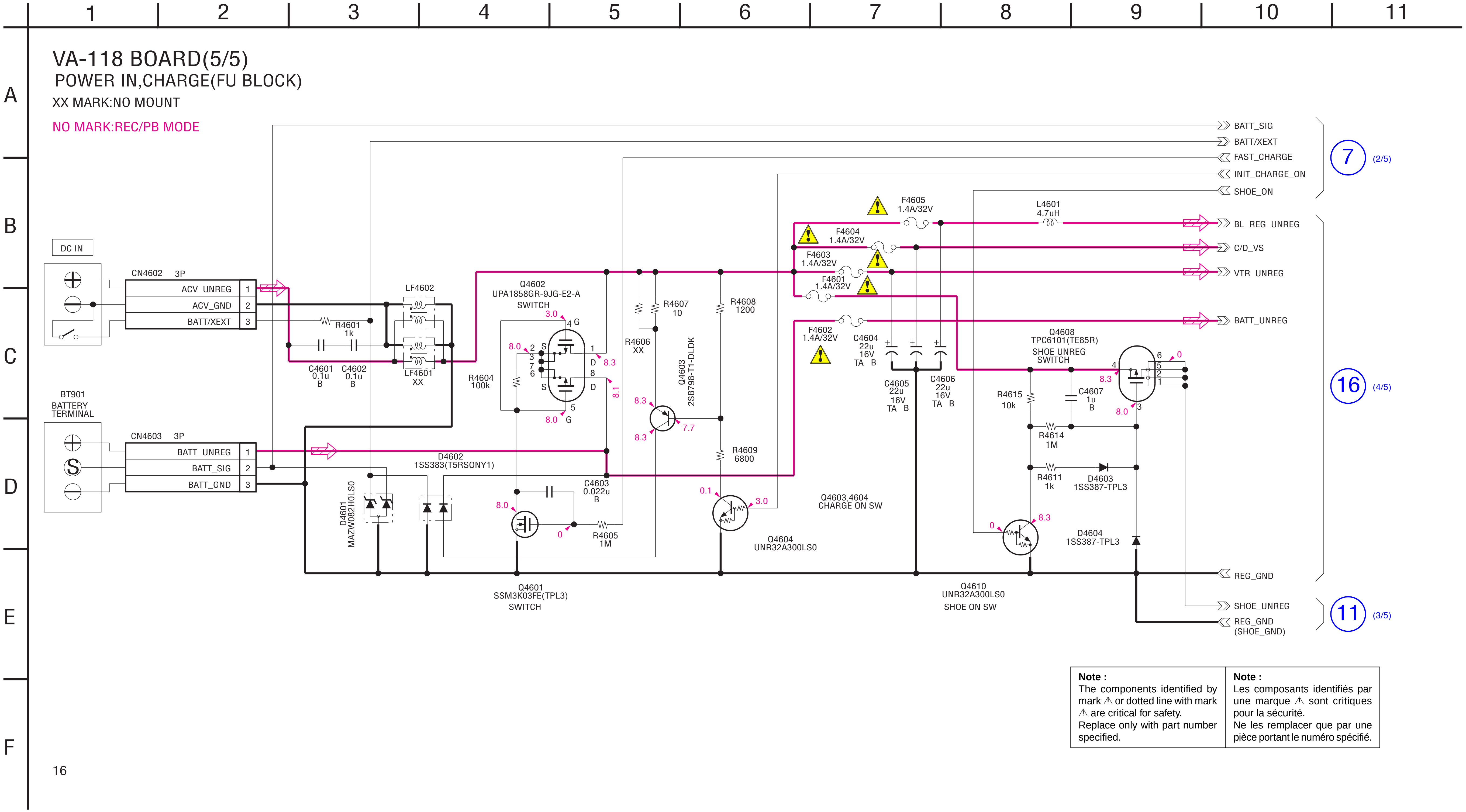
- Refer to page 4-73 for printed wiring board.

VA-118 BOARD(5/5)

POWER IN,CHARGE(FU BLOCK)

XX MARK:NO MOUNT

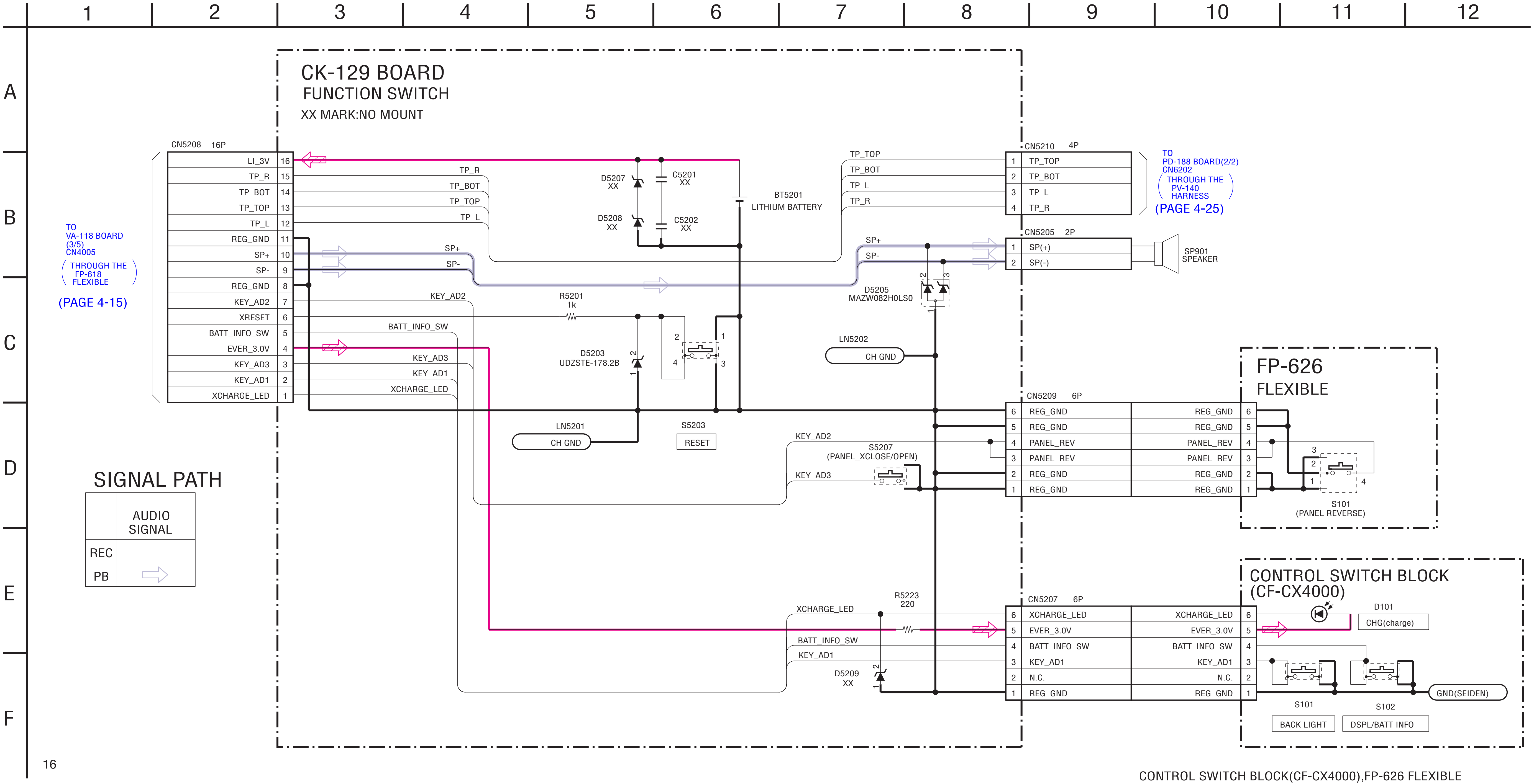
NO MARK:REC/PB MODE


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
DC IN
CN4602 3P
ACV_UNREG 1
ACV_GND 2
BATT/XEXT 3
BT901
BATTERY
TERMINAL
CN4603 3P
BATT_UNREG 1
BATT_SIG 2
BATT_GND 3
R4601
1k
C4601
0.1u
B
C4602
0.1u
B
LF4602
LF4601
XX
R4604
100k
Q4602
UPA1858GR-9JG-E2-A
SWITCH
3.0
8.0
8.3
8.1
8.0
R4606
XX
R4607
10
R4608
1200
Q4603
2SB798-T1-DLDK
8.3
7.7
8.3
R4609
6800
D4602
1SS383(T5RSONY1)
D4601
MAZW082H0LS0
C4603
0.022u
B
8.0
0
R4605
1M
Q4601
SSM3K03FE(TPL3)
SWITCH
0.1
3.0
Q4604
UNR32A300LS0
Q4603,4604
CHARGE ON SW
F4605
1.4A/32V
F4604
1.4A/32V
F4603
1.4A/32V
F4601
1.4A/32V
F4602
1.4A/32V
C4604
22u
16V
TA B
C4605
22u
16V
TA B
C4606
22u
16V
TA B
L4601
4.7uH
Q4608
TPC6101(TE85R)
SHOE UNREG
SWITCH
8.3
0
8.0
R4615
10k
C4607
1u
B
R4614
1M
R4611
1k
D4603
1SS387-TPL3
D4604
1SS387-TPL3
0
8.3
Q4610
UNR32A300LS0
SHOE ON SW
BATT_SIG
BATT/XEXT
FAST_CHARGE
INIT_CHARGE_ON
SHOE_ON
BL_REG_UNREG
C/D_VS
VTR_UNREG
BATT_UNREG
REG_GND
SHOE_UNREG
REG_GND
(SHOE_GND)
7 (2/5)
16 (4/5)
11 (3/5)

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

For Schematic Diagram

- Refer to page 4-77 for printed wiring board.


1
2
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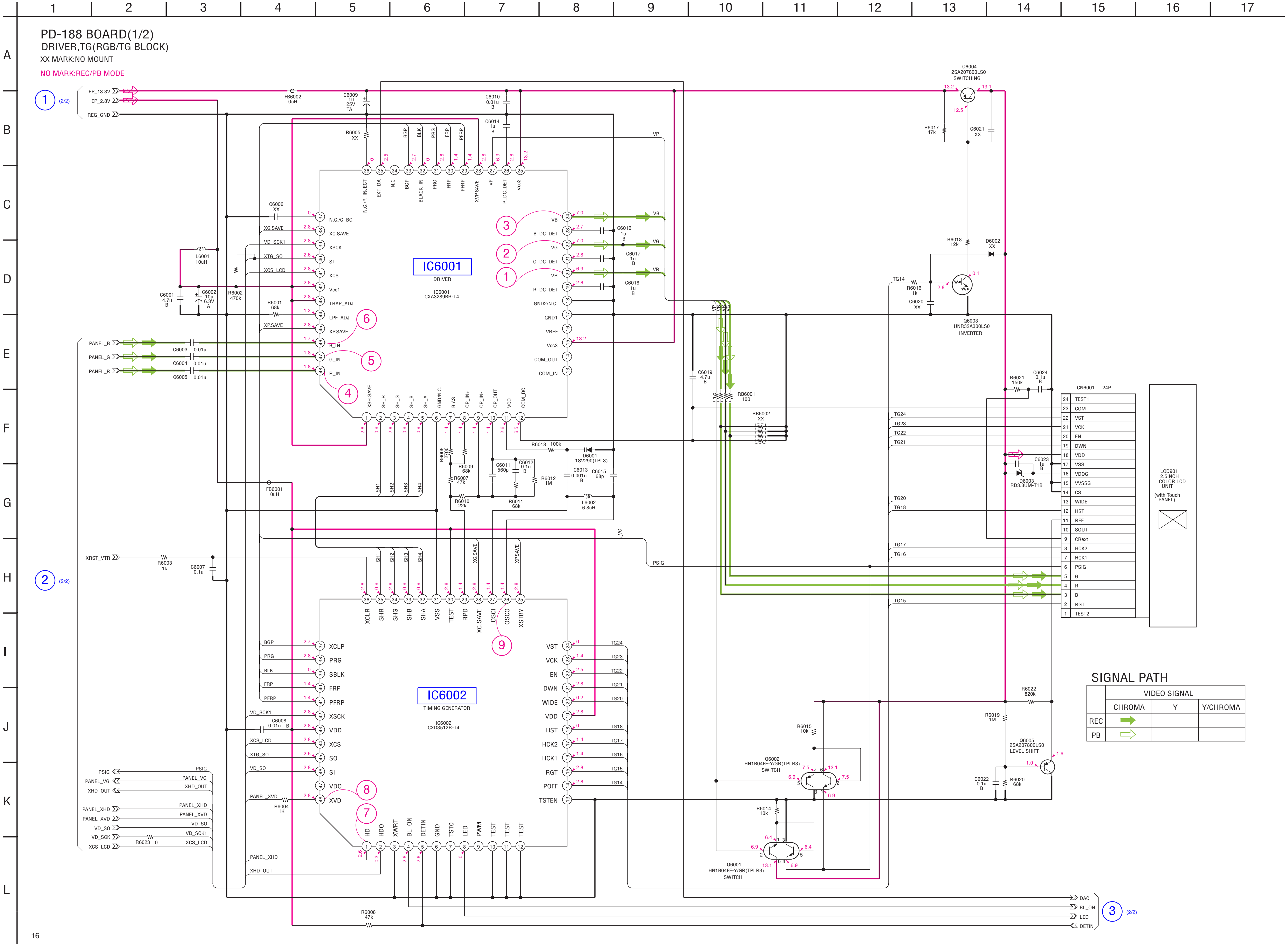
7
8
9
10
11
12
A
B
C
D
E
F
CK-129 BOARD
FUNCTION SWITCH
XX MARK:NO MOUNT
CN5208 16P
LI_3V 16
TP_R 15
TP_BOT 14
TP_TOP 13
TP_L 12
REG_GND 11
SP+ 10
SP- 9
REG_GND 8
KEY_AD2 7
XRESET 6
BATT_INFO_SW 5
EVER_3.0V 4
KEY_AD3 3
KEY_AD1 2
XCHARGE_LED 1
TO VA-118 BOARD (3/5) CN4005
THROUGH THE FP-618 FLEXIBLE
(PAGE 4-15)
D5207 XX
D5208 XX
C5201 XX
C5202 XX
BT5201 LITHIUM BATTERY
R5201 1k
D5203 UDZSTE-178.2B
LN5201 CH GND
S5203 RESET
LN5202 CH GND
D5205 MAZW082H0LS0
CN5210 4P
1 TP_TOP
2 TP_BOT
3 TP_L
4 TP_R
TO PD-188 BOARD(2/2) CN6202
THROUGH THE PV-140 HARNESS
(PAGE 4-25)
CN5205 2P
1 SP(+)
2 SP(-)
SP901 SPEAKER
CN5209 6P
6 REG_GND
5 REG_GND
4 PANEL_REV
3 PANEL_REV
2 REG_GND
1 REG_GND
S5207 (PANEL_XCLOSE/OPEN)
FP-626 FLEXIBLE
S101 (PANEL REVERSE)
CN5207 6P
6 XCHARGE_LED
5 EVER_3.0V
4 BATT_INFO_SW
3 KEY_AD1
2 N.C.
1 REG_GND
R5223 220
D5209 XX
CONTROL SWITCH BLOCK (CF-CX4000)
D101
CHG(charge)
S101 BACK LIGHT
S102 DSPL/BATT INFO
GND(SEIDEN)
SIGNAL PATH
AUDIO SIGNAL
REC
PB
16

CONTROL SWITCH BLOCK(CF-CX4000),FP-626 FLEXIBLE are replaced as a block.
So that this PRINTED WIRING BOARD is omitted.

For Schematic Diagram

- Refer to page 4-79 for printed wiring board.

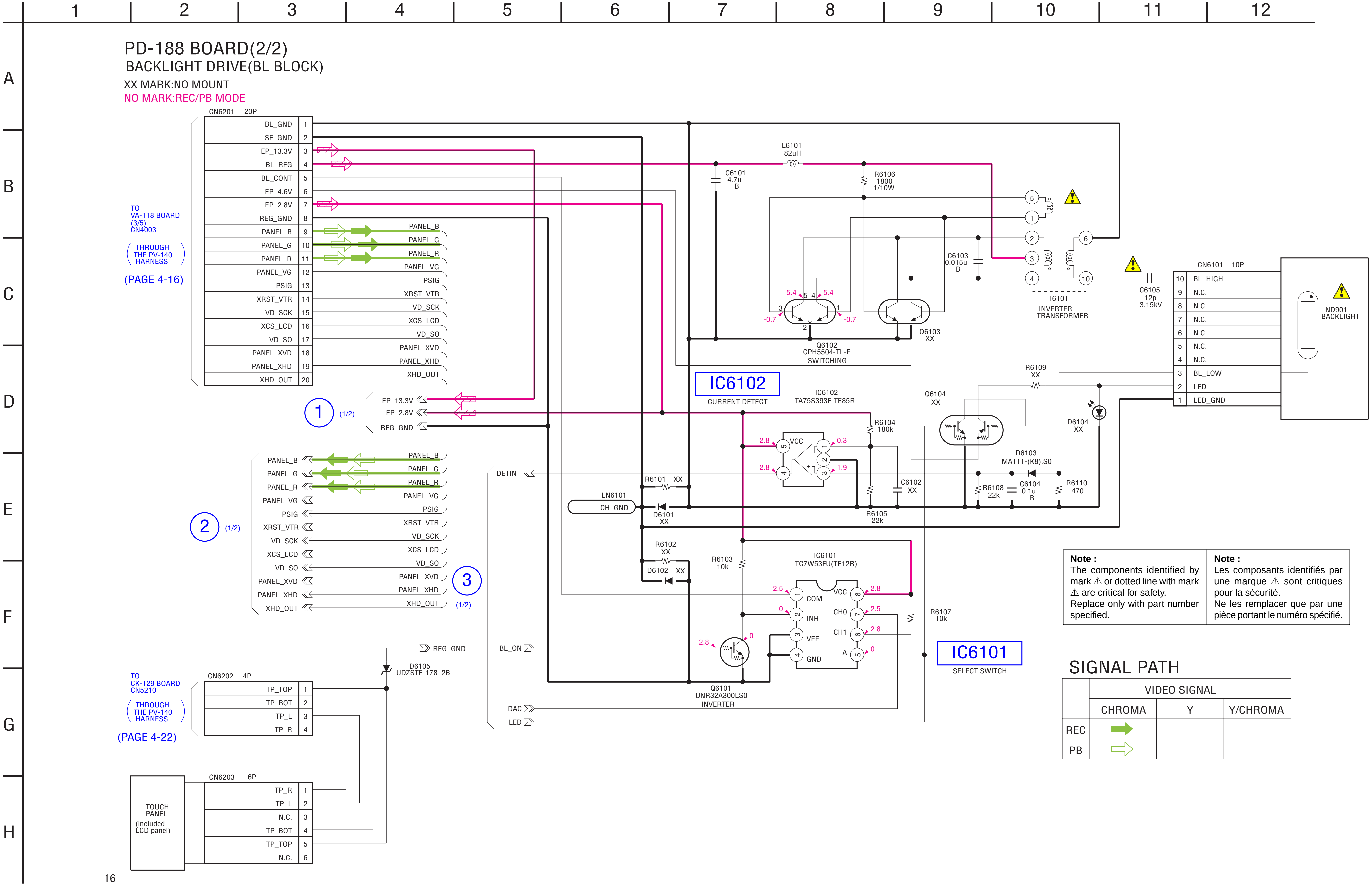

PD-188 BOARD(1/2)
DRIVER,TG(RGB/TG BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
1 (2/2)
EP_13.3V
EP_2.8V
REG_GND
2 (2/2)
XRST_VTR
PANEL_B
PANEL_G
PANEL_R
PSIG
PANEL_VG
XHD_OUT
PANEL_XHD
PANEL_XVD
VD_SO
VD_SCK
XCS_LCD
IC6001
DRIVER
IC6001
CXA3289BR-T4
IC6002
TIMING GENERATOR
IC6002
CXD3512R-T4
Q6004
2SA207800LS0
SWITCHING
Q6003
UNR32A300LS0
INVERTER
Q6005
2SA207800LS0
LEVEL SHIFT
Q6002
HN1B04FE-Y/GR(TPLR3)
SWITCH
Q6001
HN1B04FE-Y/GR(TPLR3)
SWITCH
D6001
1SV290(TPL3)
D6003
RD3.3UM-T1B
CN6001 24P
LCD901
2.5INCH
COLOR LCD
UNIT
(with Touch
PANEL)
DAC
BL_ON
LED
DETIN
3 (2/2)
16

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

For Schematic Diagram

- Refer to page 4-79 for printed wiring board.


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
PD-188 BOARD(2/2)
BACKLIGHT DRIVE(BL BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
CN6201 20P
BL_GND 1
SE_GND 2
EP_13.3V 3
BL_REG 4
BL_CONT 5
EP_4.6V 6
EP_2.8V 7
REG_GND 8
PANEL_B 9
PANEL_G 10
PANEL_R 11
PANEL_VG 12
PSIG 13
XRST_VTR 14
VD_SCK 15
XCS_LCD 16
VD_SO 17
PANEL_XVD 18
PANEL_XHD 19
XHD_OUT 20
TO VA-118 BOARD (3/5) CN4003
THROUGH THE PV-140 HARNESS
(PAGE 4-16)
1 (1/2)
EP_13.3V
EP_2.8V
REG_GND
2 (1/2)
3 (1/2)
PANEL_B
PANEL_G
PANEL_R
PANEL_VG
PSIG
XRST_VTR
VD_SCK
XCS_LCD
VD_SO
PANEL_XVD
PANEL_XHD
XHD_OUT
DETIN
BL_ON
DAC
LED
REG_GND
D6105 UDZSTE-178_2B
TO CK-129 BOARD CN5210
THROUGH THE PV-140 HARNESS
(PAGE 4-22)
CN6202 4P
TP_TOP 1
TP_BOT 2
TP_L 3
TP_R 4
CN6203 6P
TP_R 1
TP_L 2
N.C. 3
TP_BOT 4
TP_TOP 5
N.C. 6
TOUCH PANEL (included LCD panel)
16
L6101 82uH
C6101 4.7u B
R6106 1800 1/10W
C6103 0.015u B
T6101 INVERTER TRANSFORMER
Q6102 CPH5504-TL-E SWITCHING
Q6103 XX
5.4
5.4
-0.7
-0.7
C6105 12p 3.15kV
CN6101 10P
10 BL_HIGH
9 N.C.
8 N.C.
7 N.C.
6 N.C.
5 N.C.
4 N.C.
3 BL_LOW
2 LED
1 LED_GND
ND901 BACKLIGHT
IC6102 CURRENT DETECT
IC6102 TA75S393F-TE85R
R6104 180k
R6109 XX
Q6104 XX
D6104 XX
D6103 MA111-(K8).S0
C6104 0.1u B
R6108 22k
R6110 470
C6102 XX
R6105 22k
R6101 XX
D6101 XX
LN6101 CH_GND
R6102 XX
D6102 XX
R6103 10k
IC6101 TC7W53FU(TE12R)
COM
INH
VEE
GND
VCC
CH0
CH1
A
2.8
0.3
2.8
1.9
2.5
0
2.8
2.8
2.5
2.8
0
0
R6107 10k
IC6101 SELECT SWITCH
Q6101 UNR32A300LS0 INVERTER

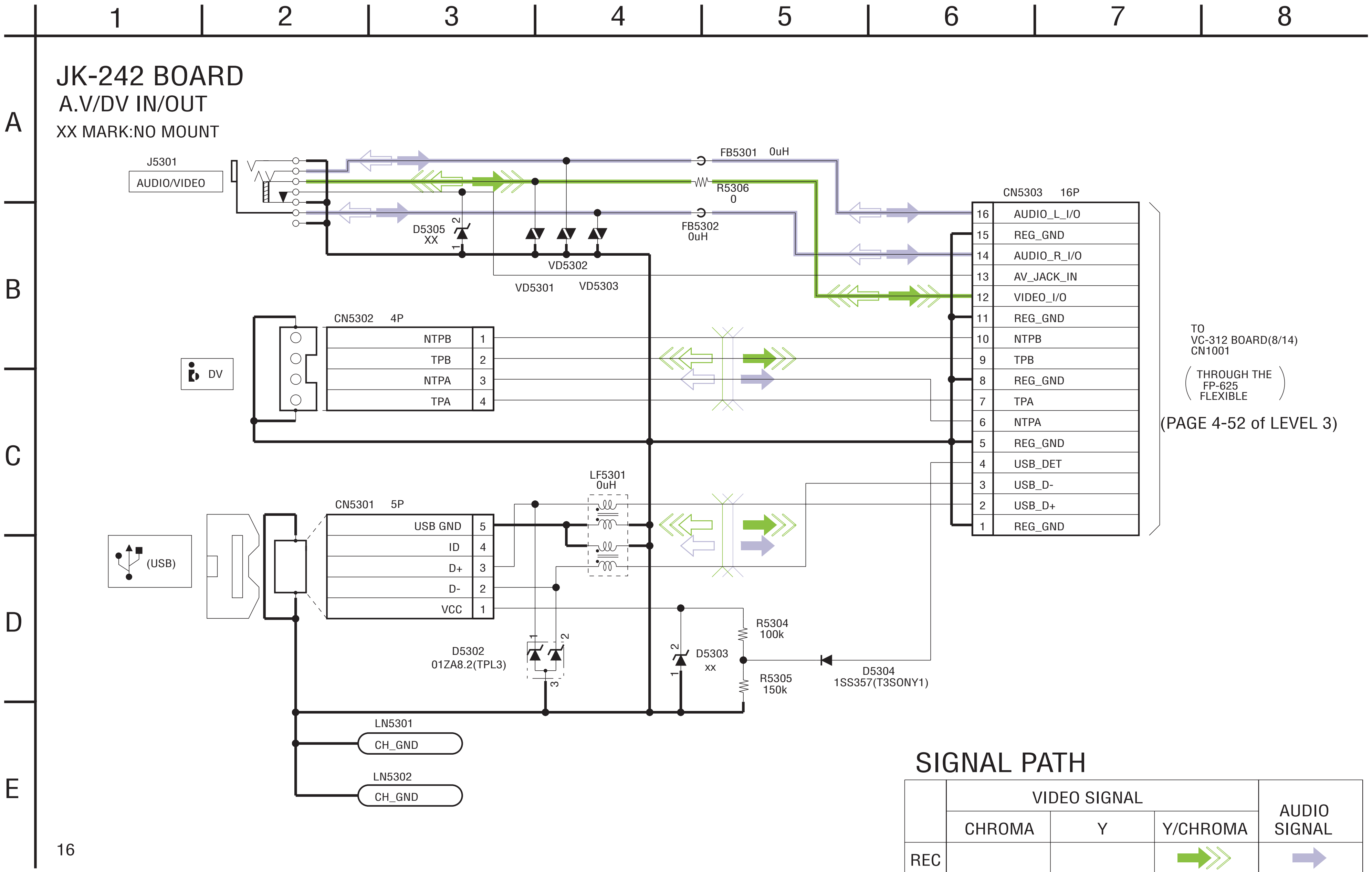
Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

For Schematic Diagram
- Refer to page 4-81 for printed wiring board.

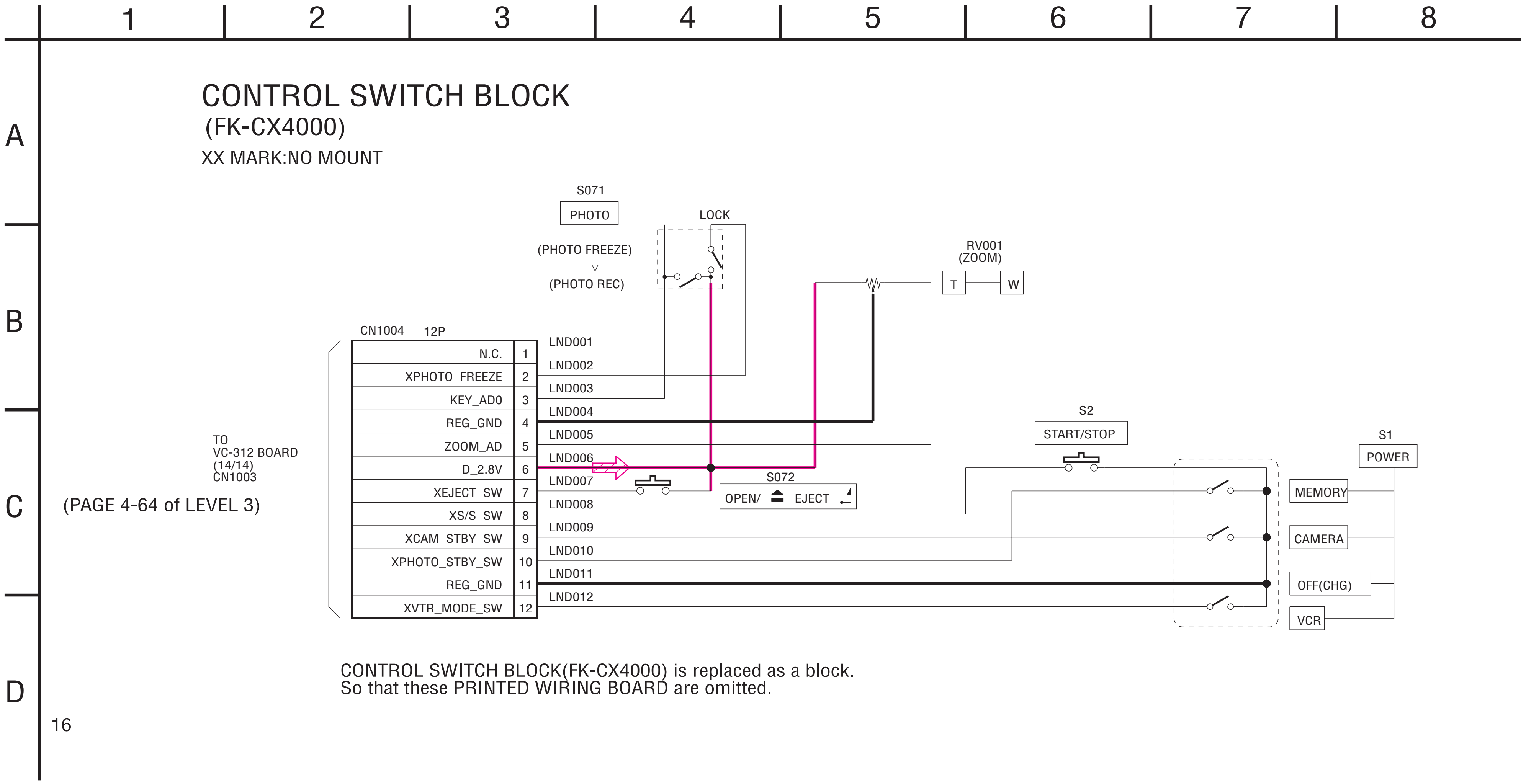

1
2
3
4
5
6
7
8
A
B
C
D
E
JK-242 BOARD
A.V/DV IN/OUT
XX MARK:NO MOUNT
J5301
AUDIO/VIDEO
FB5301 0uH
R5306
0
FB5302
0uH
D5305
XX
VD5302
VD5301
VD5303
CN5303 16P
16 AUDIO_L_I/O
15 REG_GND
14 AUDIO_R_I/O
13 AV_JACK_IN
12 VIDEO_I/O
11 REG_GND
10 NTPB
9 TPB
8 REG_GND
7 TPA
6 NTPA
5 REG_GND
4 USB_DET
3 USB_D-
2 USB_D+
1 REG_GND
TO
VC-312 BOARD(8/14)
CN1001
THROUGH THE
FP-625
FLEXIBLE
(PAGE 4-52 of LEVEL 3)
CN5302 4P
NTPB 1
TPB 2
NTPA 3
TPA 4
DV
LF5301
0uH
CN5301 5P
USB GND 5
ID 4
D+ 3
D- 2
VCC 1
(USB)
D5302
01ZA8.2(TPL3)
D5303
xx
R5304
100k
R5305
150k
D5304
1SS357(T3SONY1)
LN5301
CH_GND
LN5302
CH_GND
16

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡	➡
PB			⇨	⇨

CONTROL SWITCH BLOCK
(FK-CX4000)

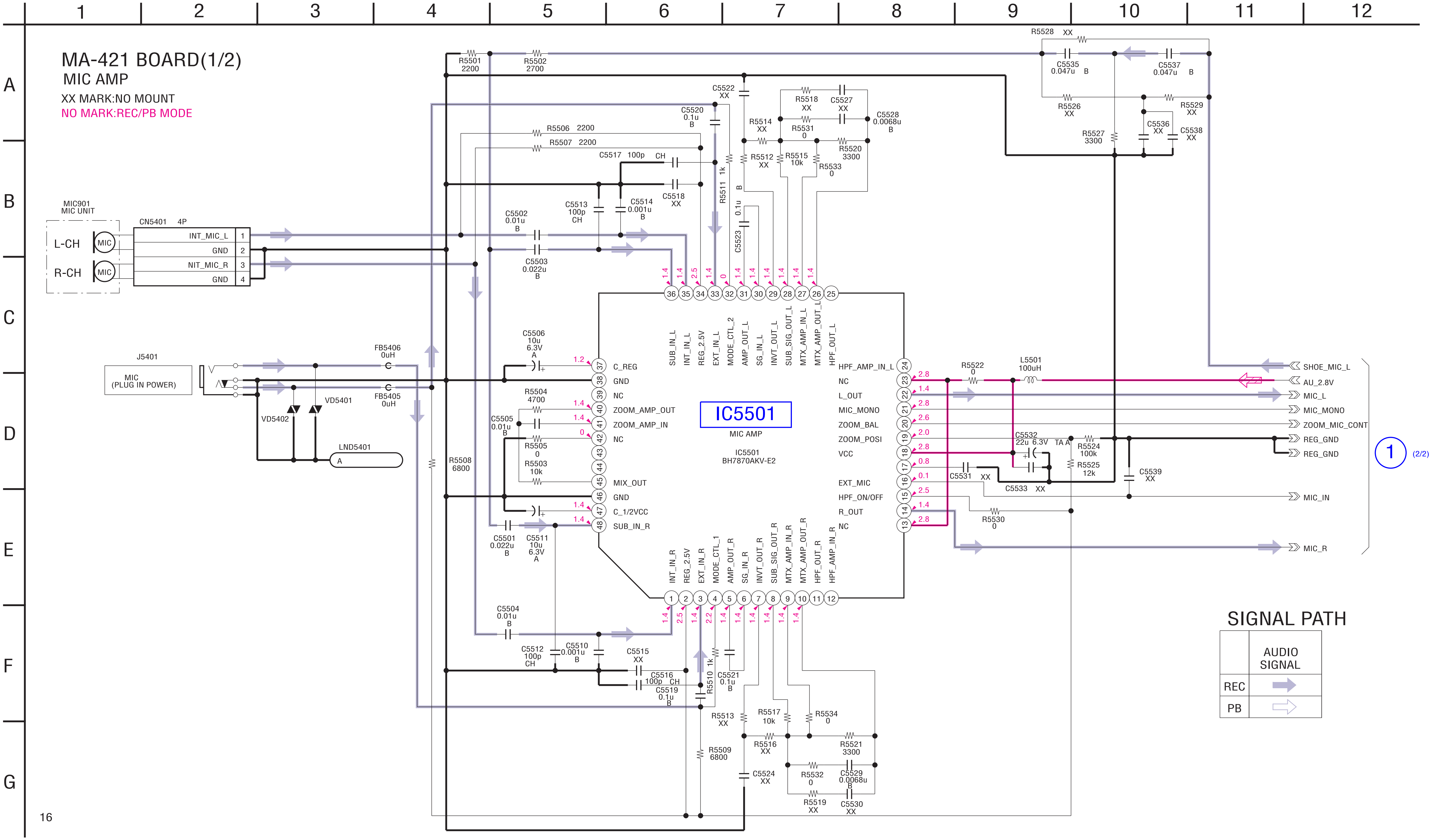
XX MARK:NO MOUNT


1
2
3
4
5
6
7
8
A
B
C
D
16
S071
PHOTO
LOCK
(PHOTO FREEZE)
(PHOTO REC)
RV001
(ZOOM)
T
W
CN1004 12P
N.C. 1
XPHOTO_FREEZE 2
KEY_AD0 3
REG_GND 4
ZOOM_AD 5
D_2.8V 6
XEJECT_SW 7
XS/S_SW 8
XCAM_STBY_SW 9
XPHOTO_STBY_SW 10
REG_GND 11
XVTR_MODE_SW 12
LND001
LND002
LND003
LND004
LND005
LND006
LND007
LND008
LND009
LND010
LND011
LND012
TO
VC-312 BOARD
(14/14)
CN1003
(PAGE 4-64 of LEVEL 3)
S072
OPEN/ ⏏ EJECT
S2
START/STOP
S1
POWER
MEMORY
CAMERA
OFF(CHG)
VCR

CONTROL SWITCH BLOCK(FK-CX4000) is replaced as a block.
So that these PRINTED WIRING BOARD are omitted.

For Schematic Diagram

- Refer to page 4-83 for printed wiring board.

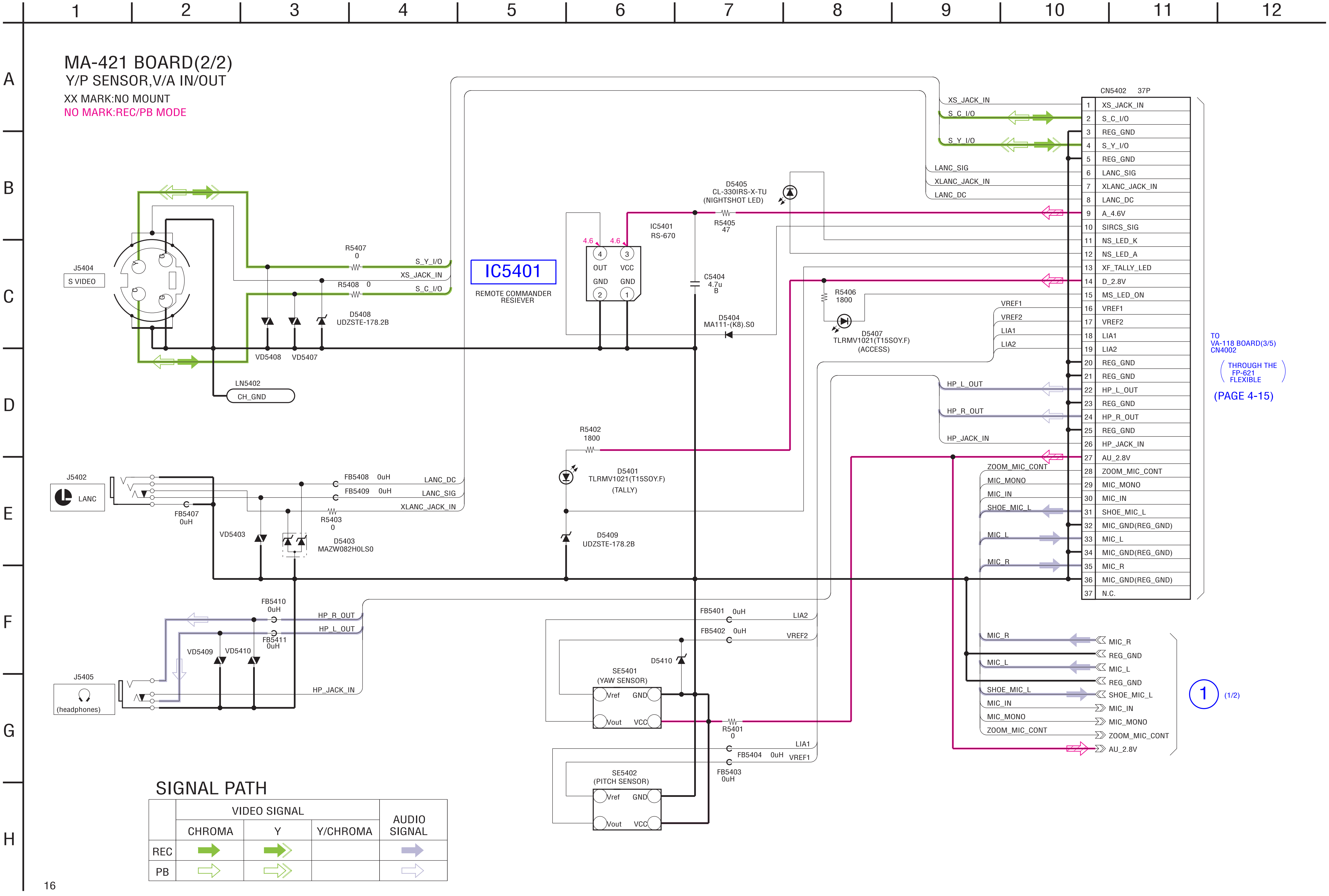

1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G
MA-421 BOARD(1/2)
MIC AMP
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
MIC901 MIC UNIT
L-CH
R-CH
MIC
CN5401 4P
INT_MIC_L 1
GND 2
NIT_MIC_R 3
GND 4
J5401
MIC (PLUG IN POWER)
VD5401
VD5402
LND5401 A
FB5406 0uH
FB5405 0uH
R5501 2200
R5502 2700
R5506 2200
R5507 2200
R5508 6800
C5502 0.01u B
C5503 0.022u B
C5513 100p CH
C5514 0.001u B
C5517 100p CH
C5518 XX
C5520 0.1u B
C5522 XX
R5511 1k
C5523 0.1u B
R5514 XX
R5512 XX
R5518 XX
R5531 0
C5527 XX
C5528 0.0068u B
R5515 10k
R5520 3300
R5533 0
R5528 XX
C5535 0.047u B
C5537 0.047u B
R5526 XX
R5529 XX
R5527 3300
C5536 XX
C5538 XX
C5506 10u 6.3V A
R5504 4700
C5505 0.01u B
R5505 0
R5503 10k
C5501 0.022u B
C5511 10u 6.3V A
C5504 0.01u B
C5512 100p CH
C5510 0.001u B
C5515 XX
C5516 100p CH
C5519 0.1u B
R5510 1k
C5521 0.1u B
R5513 XX
R5509 6800
R5517 10k
R5534 0
R5516 XX
R5521 3300
C5524 XX
R5532 0
C5529 0.0068u B
R5519 XX
C5530 XX
IC5501
MIC AMP
IC5501 BH7870AKV-E2
SUB_IN_L INT_IN_L REG_2.5V EXT_IN_L MODE_CTL_2 AMP_OUT_L SG_IN_L INVT_OUT_L SUB_SIG_OUT_L MTX_AMP_IN_L MTX_AMP_OUT_L HPF_OUT_L
C_REG GND NC ZOOM_AMP_OUT ZOOM_AMP_IN NC MIX_OUT GND C_1/2VCC SUB_IN_R
HPF_AMP_IN_L NC L_OUT MIC_MONO ZOOM_BAL ZOOM_POSI VCC EXT_MIC HPF_ON/OFF R_OUT NC
INT_IN_R REG_2.5V EXT_IN_R MODE_CTL_1 AMP_OUT_R SG_IN_R INVT_OUT_R SUB_SIG_OUT_R MTX_AMP_IN_R MTX_AMP_OUT_R HPF_OUT_R HPF_AMP_IN_R
R5522 0
L5501 100uH
C5532 22u 6.3V TA A
R5524 100k
R5525 12k
C5531 XX
C5533 XX
C5539 XX
R5530 0
SHOE_MIC_L
AU_2.8V
MIC_L
MIC_MONO
ZOOM_MIC_CONT
REG_GND
REG_GND
MIC_IN
MIC_R
1 (2/2)
SIGNAL PATH
AUDIO SIGNAL
REC
PB
16

COVER

4-2. SCHEMATIC DIAGRAMS

MA-421 PRINTED WIRING BOARD

For Schematic Diagram
- Refer to page 4-83 for printed wiring board.


1
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4
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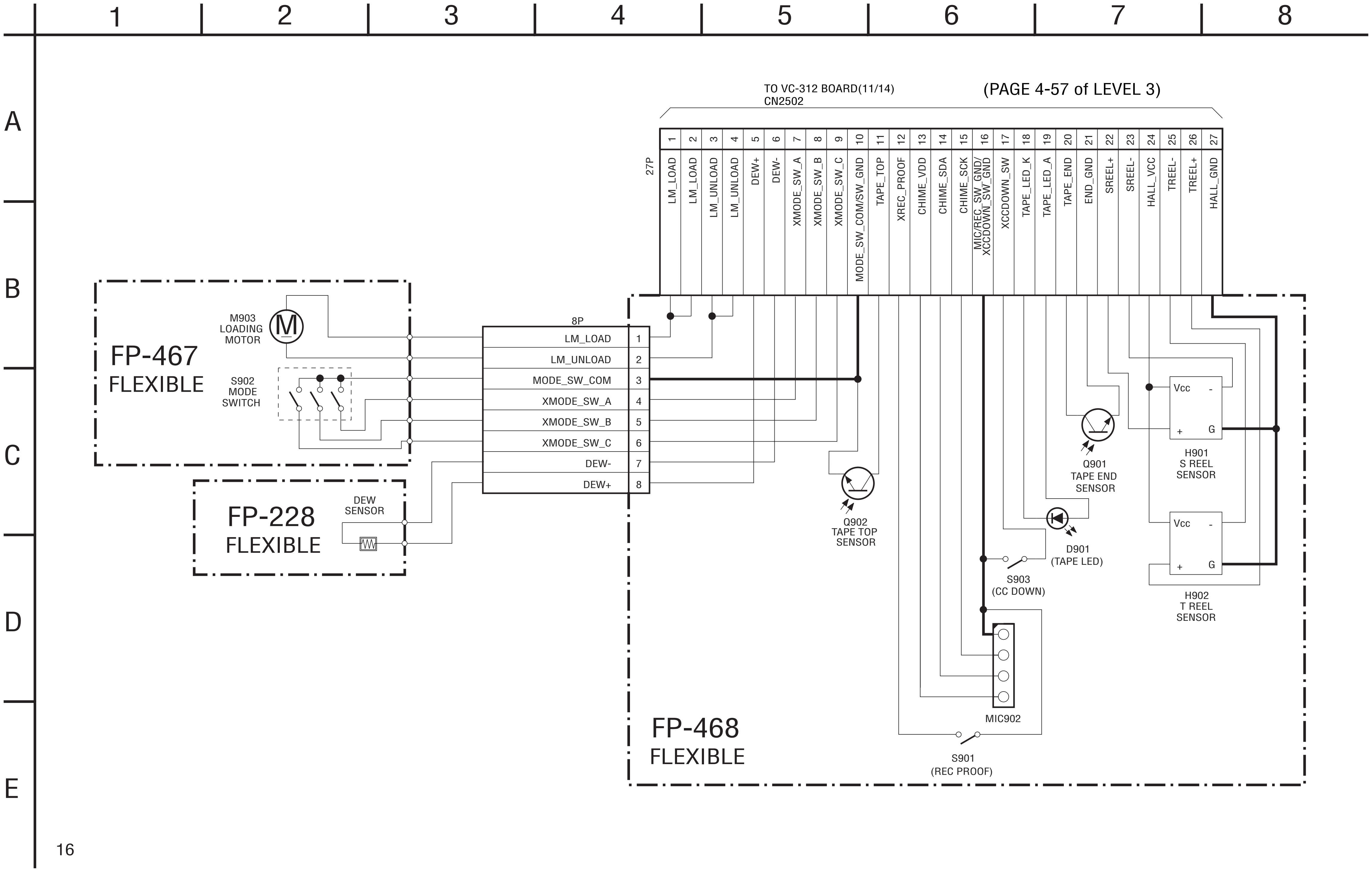
7
8
9
10
11
12
A
B
C
D
E
F
G
H
MA-421 BOARD(2/2)
Y/P SENSOR,V/A IN/OUT
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
J5404
S VIDEO
R5407
0
R5408 0
S_Y_I/O
XS_JACK_IN
S_C_I/O
D5408
UDZSTE-178.2B
VD5408
VD5407
LN5402
CH_GND
IC5401
REMOTE COMMANDER RESIEVER
4.6
4.6
OUT
VCC
GND
GND
IC5401
RS-670
D5405
CL-330IRS-X-TU
(NIGHTSHOT LED)
R5405
47
C5404
4.7u
B
R5406
1800
D5404
MA111-(K8).S0
D5407
TLRMV1021(T15SOY.F)
(ACCESS)
R5402
1800
D5401
TLRMV1021(T15SOY.F)
(TALLY)
D5409
UDZSTE-178.2B
J5402
LANC
FB5407
0uH
FB5408 0uH
FB5409 0uH
LANC_DC
LANC_SIG
XLANC_JACK_IN
R5403
0
VD5403
D5403
MAZW082H0LS0
FB5410
0uH
FB5411
0uH
HP_R_OUT
HP_L_OUT
VD5409
VD5410
J5405
(headphones)
HP_JACK_IN
FB5401 0uH
FB5402 0uH
LIA2
VREF2
D5410
SE5401
(YAW SENSOR)
Vref
GND
Vout
VCC
R5401
0
LIA1
FB5404 0uH
VREF1
FB5403
0uH
SE5402
(PITCH SENSOR)
Vref
GND
Vout
VCC
CN5402 37P
1 XS_JACK_IN
2 S_C_I/O
3 REG_GND
4 S_Y_I/O
5 REG_GND
6 LANC_SIG
7 XLANC_JACK_IN
8 LANC_DC
9 A_4.6V
10 SIRCS_SIG
11 NS_LED_K
12 NS_LED_A
13 XF_TALLY_LED
14 D_2.8V
15 MS_LED_ON
16 VREF1
17 VREF2
18 LIA1
19 LIA2
20 REG_GND
21 REG_GND
22 HP_L_OUT
23 REG_GND
24 HP_R_OUT
25 REG_GND
26 HP_JACK_IN
27 AU_2.8V
28 ZOOM_MIC_CONT
29 MIC_MONO
30 MIC_IN
31 SHOE_MIC_L
32 MIC_GND(REG_GND)
33 MIC_L
34 MIC_GND(REG_GND)
35 MIC_R
36 MIC_GND(REG_GND)
37 N.C.
XS_JACK_IN
S_C_I/O
S_Y_I/O
LANC_SIG
XLANC_JACK_IN
LANC_DC
VREF1
VREF2
LIA1
LIA2
HP_L_OUT
HP_R_OUT
HP_JACK_IN
ZOOM_MIC_CONT
MIC_MONO
MIC_IN
SHOE_MIC_L
MIC_L
MIC_R
TO
VA-118 BOARD(3/5)
CN4002
THROUGH THE FP-621 FLEXIBLE
(PAGE 4-15)
MIC_R
MIC_L
SHOE_MIC_L
MIC_IN
MIC_MONO
ZOOM_MIC_CONT
MIC_R
REG_GND
MIC_L
REG_GND
SHOE_MIC_L
MIC_IN
MIC_MONO
ZOOM_MIC_CONT
AU_2.8V
1
(1/2)
16

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		➡
PB	⇨	⇨		⇨

For Schematic Diagram

- Refer to page 4-71 for flexible wiring board.


1
2
3
4
5
6
7
8
A
B
C
D
E
TO VC-312 BOARD(11/14)
CN2502
(PAGE 4-57 of LEVEL 3)
27P
1 LM_LOAD
2 LM_LOAD
3 LM_UNLOAD
4 LM_UNLOAD
5 DEW+
6 DEW-
7 XMODE_SW_A
8 XMODE_SW_B
9 XMODE_SW_C
10 MODE_SW_COM/SW_GND
11 TAPE_TOP
12 XREC_PROOF
13 CHIME_VDD
14 CHIME_SDA
15 CHIME_SCK
16 MIC/REC_SW_GND/ XCCDOWN_SW_GND
17 XCCDOWN_SW
18 TAPE_LED_K
19 TAPE_LED_A
20 TAPE_END
21 END_GND
22 SREEL+
23 SREEL-
24 HALL_VCC
25 TREEL-
26 TREEL+
27 HALL_GND
FP-467
FLEXIBLE
M903
LOADING
MOTOR
M
S902
MODE
SWITCH
8P
LM_LOAD 1
LM_UNLOAD 2
MODE_SW_COM 3
XMODE_SW_A 4
XMODE_SW_B 5
XMODE_SW_C 6
DEW- 7
DEW+ 8
FP-228
FLEXIBLE
DEW
SENSOR
Q902
TAPE TOP
SENSOR
Q901
TAPE END
SENSOR
D901
(TAPE LED)
S903
(CC DOWN)
Vcc
-
+
G
H901
S REEL
SENSOR
H902
T REEL
SENSOR
MIC902
S901
(REC PROOF)
FP-468
FLEXIBLE
16

Schematic diagram of the VC-312 board are not shown.
Pages from 4-37 to 4-64 are not shown.

COVER

4-3. PRINTED WIRING BOARDS

Link

- CD-430 BOARD
- LB-085 BOARD
- FP-626 FLEXIBLE BOARD
- FP-467/468/228 FLEXIBLE BOARD (MD BLOCK)
- VA-118 BOARD (SIDE A)
- VA-118 BOARD (SIDE B)
- CK-129 BOARD
- PD-188 BOARD
- JK-242 BOARD
- MA-421 BOARD

- COMMON NOTE FOR PRINTED WIRING BOARDS
- WAVEFORMS
- MOUNTED PARTS LOCATION
- CIRCUIT BOARDS LOCATION
- FLEXIBLE BOARDS LOCATION

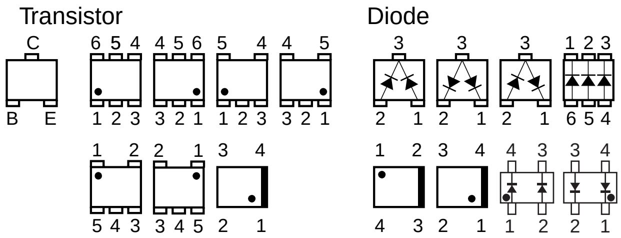
4-3. PRINTED WIRING BOARDS

THIS NOTE IS COMMON FOR WIRING BOARDS
(In addition to this, the necessary note is printed in each block)

(For printed wiring boards)

- : Uses unleaded solder.
- 🟩 : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are a few cases that the part printed on diagram isn't mounted in this model.
- ▭ : panel designation

- Chip parts.


Transistor
C
B E
6 5 4
1 2 3
4 5 6
3 2 1
5 4
1 2 3
4 5
3 2 1
1 2
5 4 3
2 1
3 4 5
3 4
2 1
Diode
3
2 1
3
2 1
3
2 1
1 2 3
6 5 4
1 2
4 3
3 4
2 1
4 3
1 2
3 4
2 1

BOARD INFORMATION

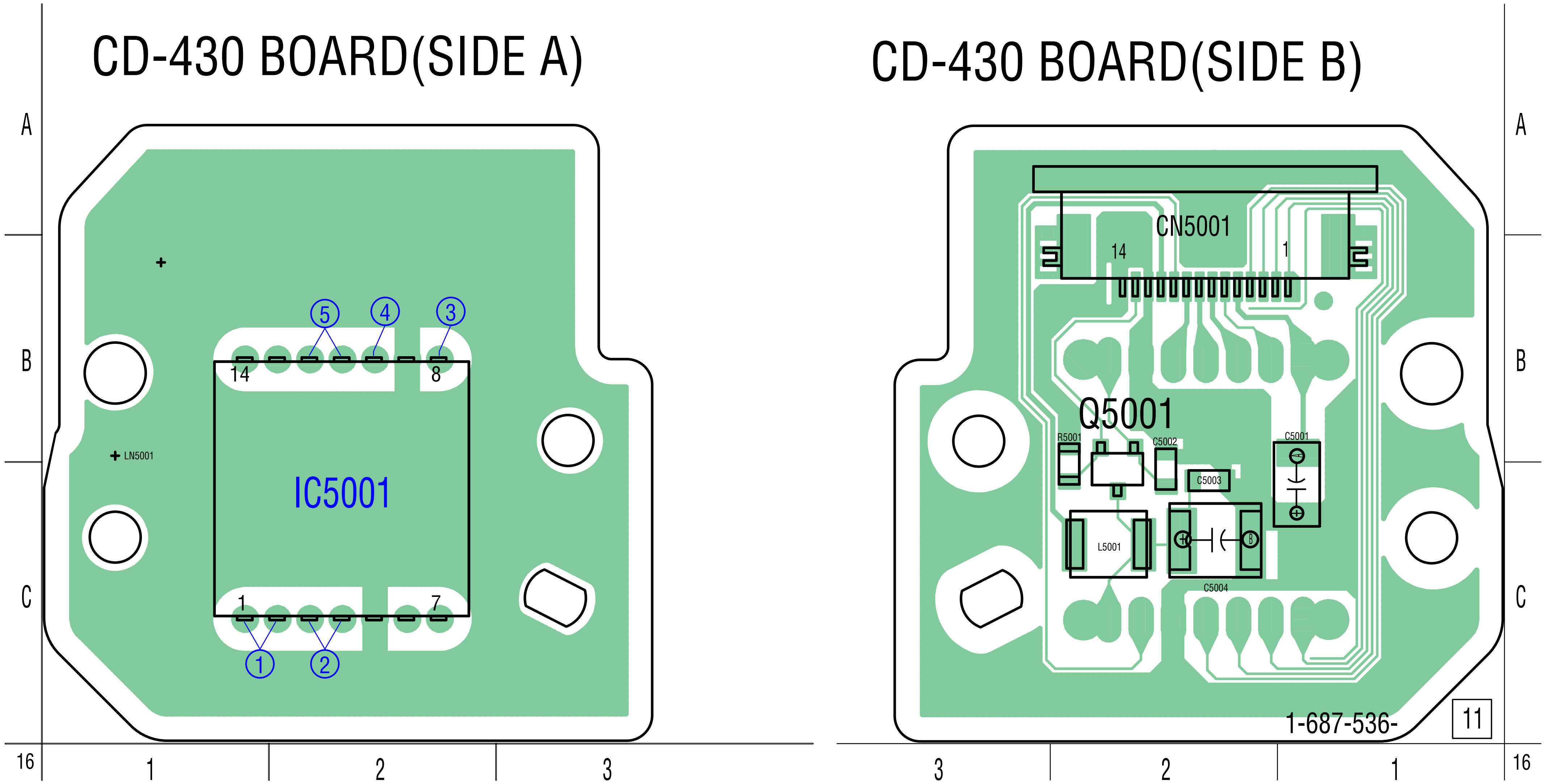
board name	parts location (shown on page)	waveform (shown on page)	pattern		CSP IC
			number of layers	layers not shown	
CD-430	4-93	4-89	6	2 to 5	–
LB-085	4-93	–	6	2 to 5	–
FP-626 FLEXIBLE	–	–	1	–	–
VA-118	4-93	4-89	6	2 to 5	–
CK-129	4-94	–	6	2 to 5	–
PD-188	4-94	4-90	6	2 to 5	–
JK-242	4-94	–	6	2 to 5	–
MA-421	4-94	–	6	2 to 5	–
VC-312	4-95	4-91,4-92	8	2 to 7	IC2101, 2201, 2301, 2601, 2704, 2803

4-3. PRINTED WIRING BOARDS

CD-430 (CCD IMAGER) PRINTED WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.

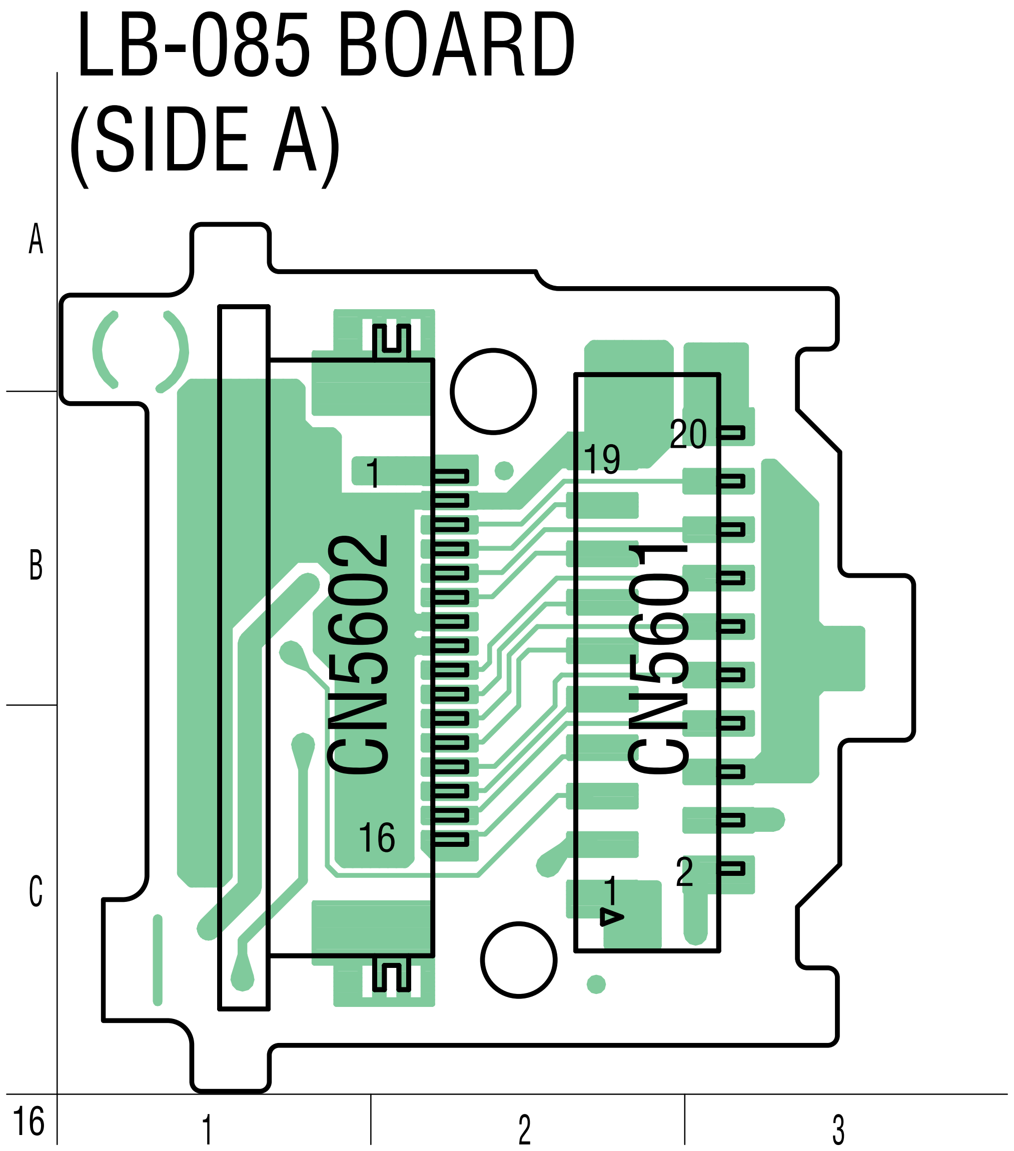
- LF : Uses unleaded solder.

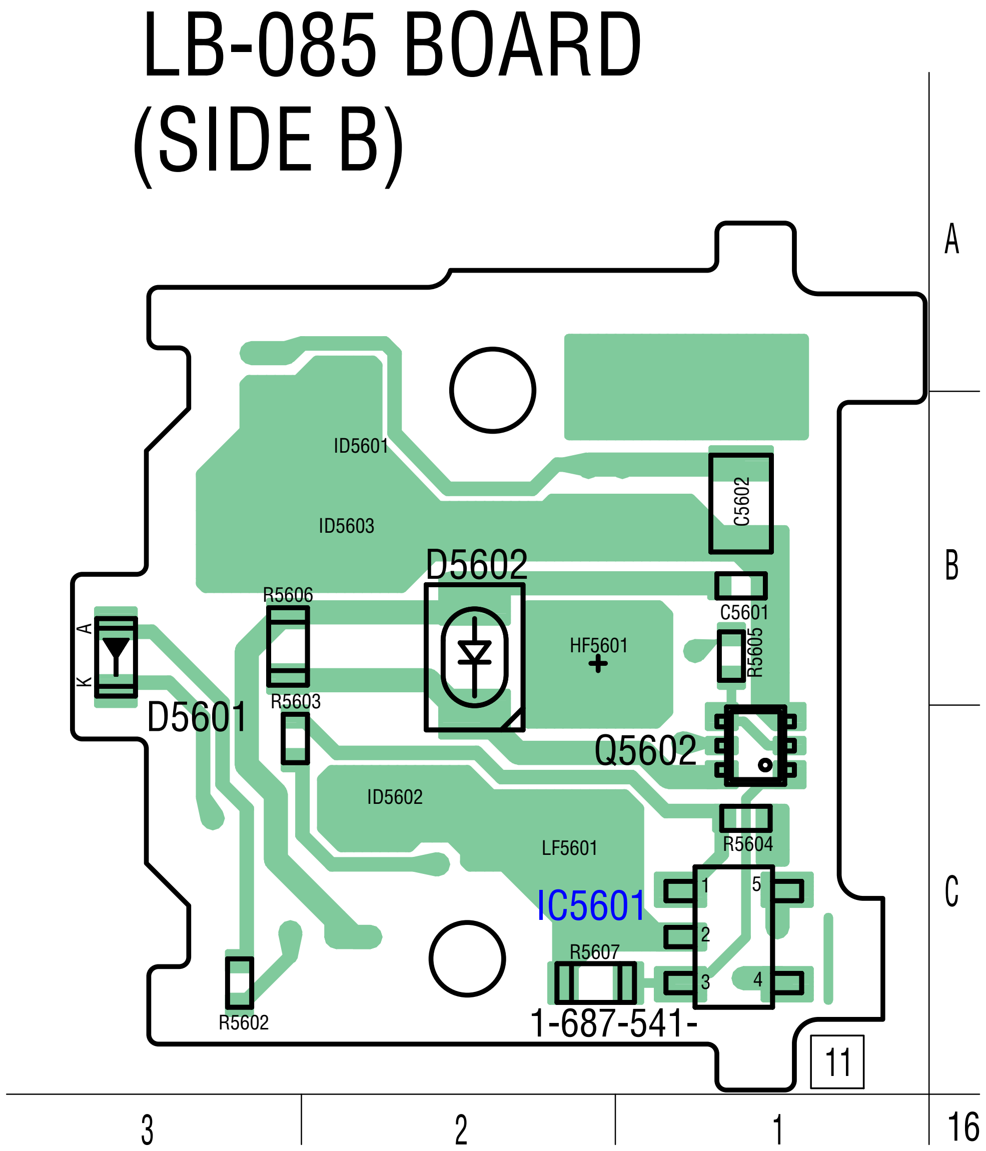

CD-430 BOARD(SIDE A)
CD-430 BOARD(SIDE B)
A
B
C
16
1
2
3
IC5001
14
8
1
7
①
②
③
④
⑤
LN5001
CN5001
14
1
Q5001
R5001
C5002
C5001
C5003
L5001
C5004
1-687-536-
11

LB-085 (EVF, BACK LIGHT) PRINTED WIRING BOARD

• Refer to page 4-65 for common note for printed wiring board.

• LF : Uses unleaded solder.

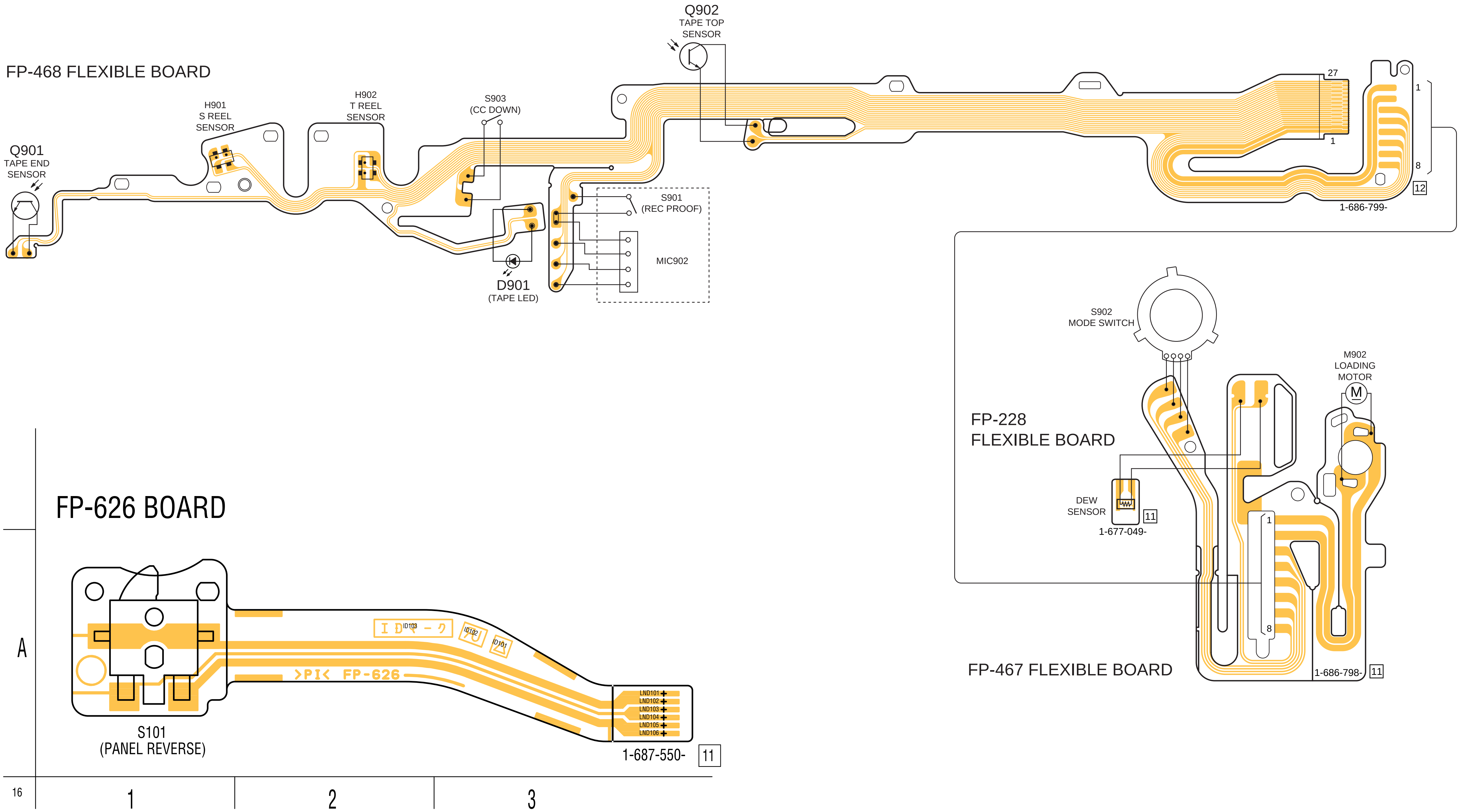

LB-085 BOARD
(SIDE A)
A
B
C
16
1
2
3
CN5602
1
16
CN5601
19
20
1
2


LB-085 BOARD
(SIDE B)
A
B
C
16
3
2
1
ID5601
ID5603
D5602
R5606
C5602
C5601
R5605
HF5601
A
K
D5601
R5603
Q5602
ID5602
LF5601
R5604
IC5601
1
2
3
4
5
R5607
R5602
1-687-541-
11

FP-467/468/228 FLEXIBLE WIRING BOARD (MD BLOCK)
FP-626 FLEXIBLE WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.

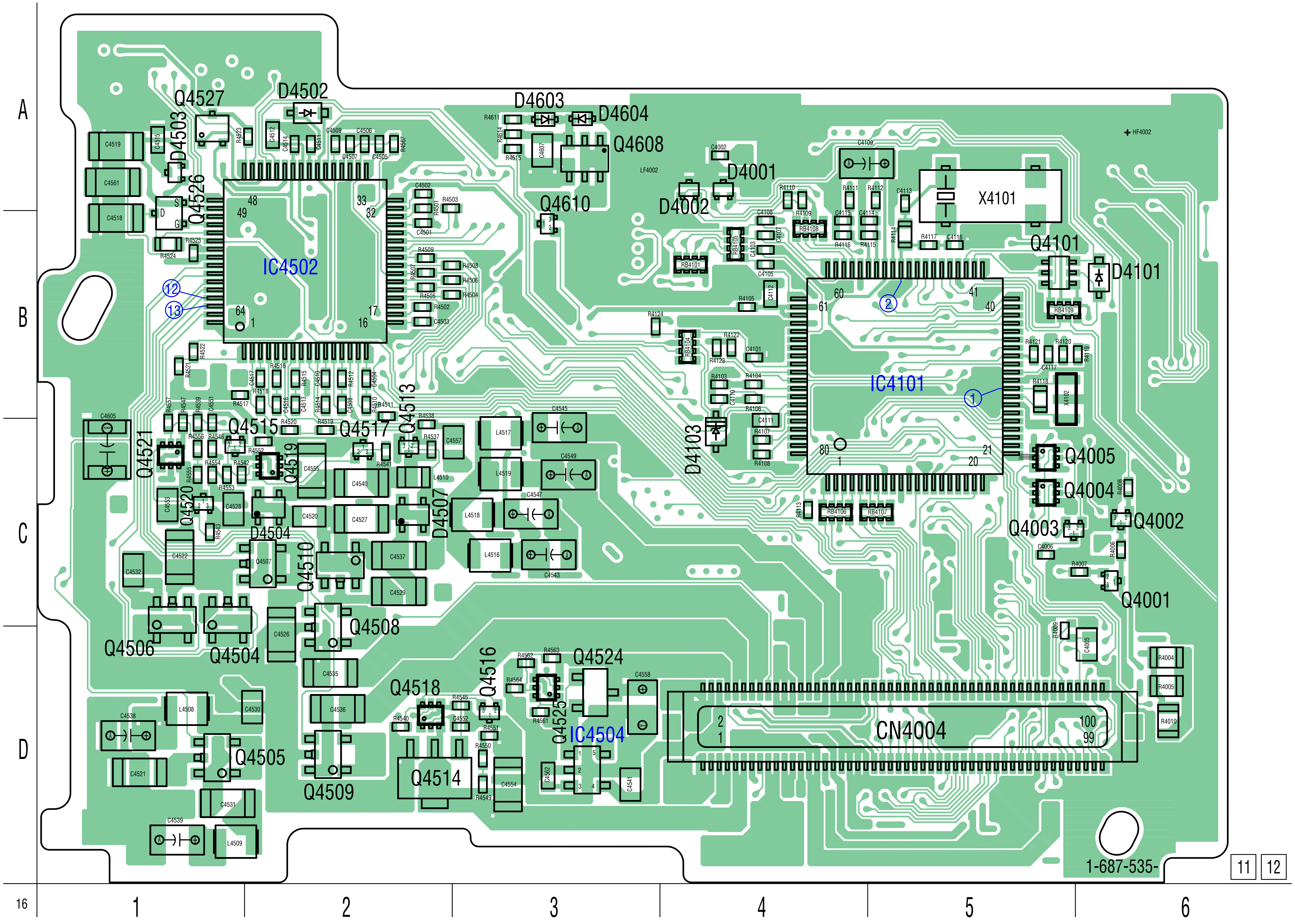

FP-468 FLEXIBLE BOARD
Q902
TAPE TOP
SENSOR
H901
S REEL
SENSOR
H902
T REEL
SENSOR
S903
(CC DOWN)
Q901
TAPE END
SENSOR
S901
(REC PROOF)
MIC902
D901
(TAPE LED)
27
1
1
8
12
1-686-799-
FP-228
FLEXIBLE BOARD
S902
MODE SWITCH
M902
LOADING
MOTOR
M
DEW
SENSOR
11
1-677-049-
1
8
FP-467 FLEXIBLE BOARD
1-686-798-
11
FP-626 BOARD
A
16
ID103
ID102
ID101
FP-626
LND101
LND102
LND103
LND104
LND105
LND106
S101
(PANEL REVERSE)
1-687-550-
11
1
2
3

VA-118 (RGB DRIVE, TG, HI CONTROL, Y/P SENSOR AMP, CONNECTOR, DC/DC COVERTER, POWER IN, CHARGE) PRINTED WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.

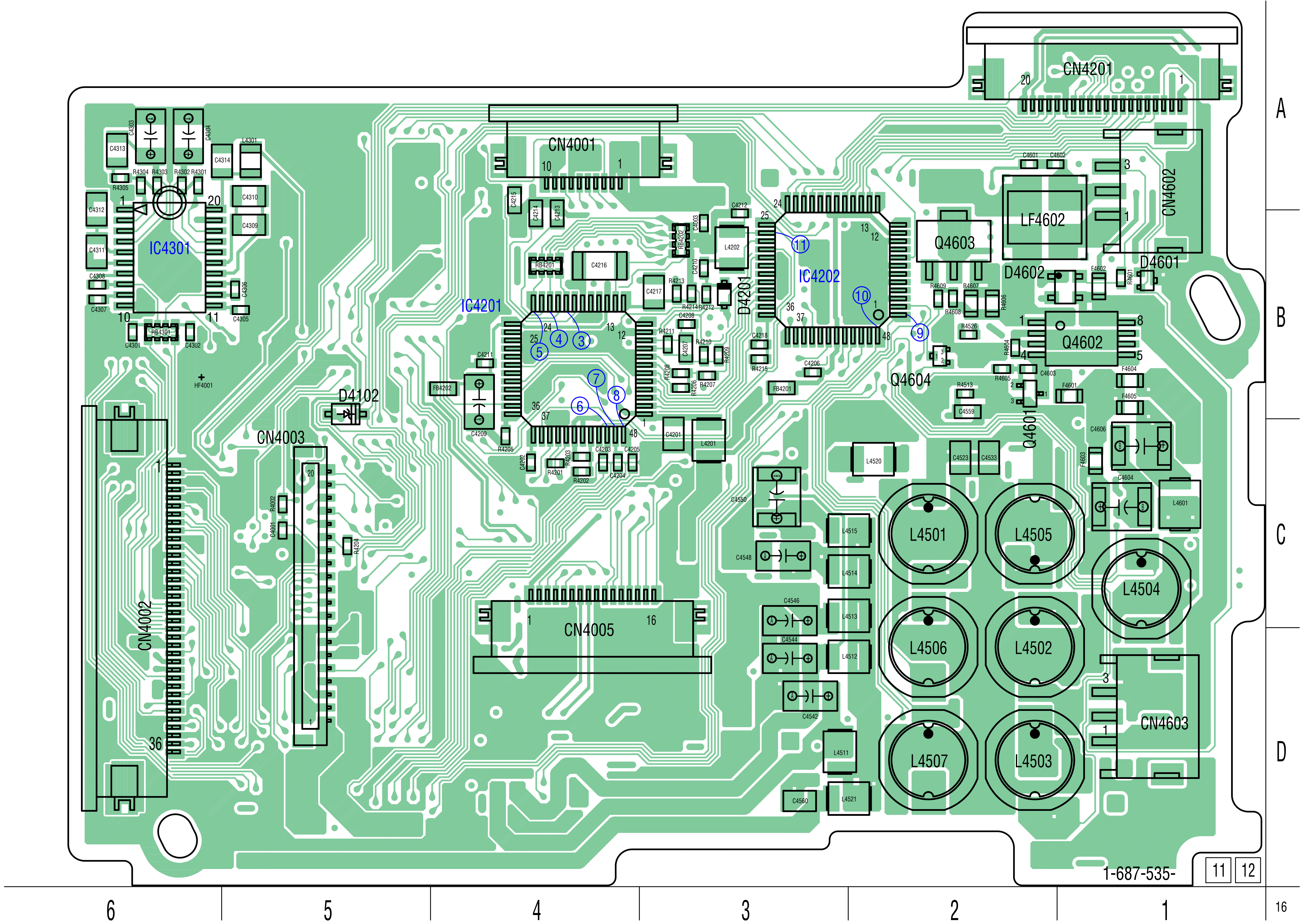
- LF : Uses unleaded solder.

VA-118 BOARD(SIDE A)


A
B
C
D
1
2
3
4
5
6
16
Q4527
D4502
D4603
D4604
Q4608
D4503
Q4526
C4519
C4561
C4518
IC4502
48
49
33
32
64
1
17
16
12
13
D4001
D4002
Q4610
X4101
Q4101
D4101
IC4101
60
61
41
40
80
1
21
20
2
1
D4103
Q4005
Q4004
Q4003
Q4002
Q4001
Q4515
Q4517
Q4513
Q4521
Q4519
Q4520
D4504
D4507
Q4510
Q4506
Q4504
Q4508
Q4505
Q4509
Q4514
Q4518
Q4516
Q4524
Q4525
IC4504
CN4004
2
1
100
99
HF4002
LF4002
1-687-535-
11
12

- Refer to page 4-65 for common note for printed wiring board.
- LF : Uses unleaded solder.

VA-118 BOARD(SIDE B)

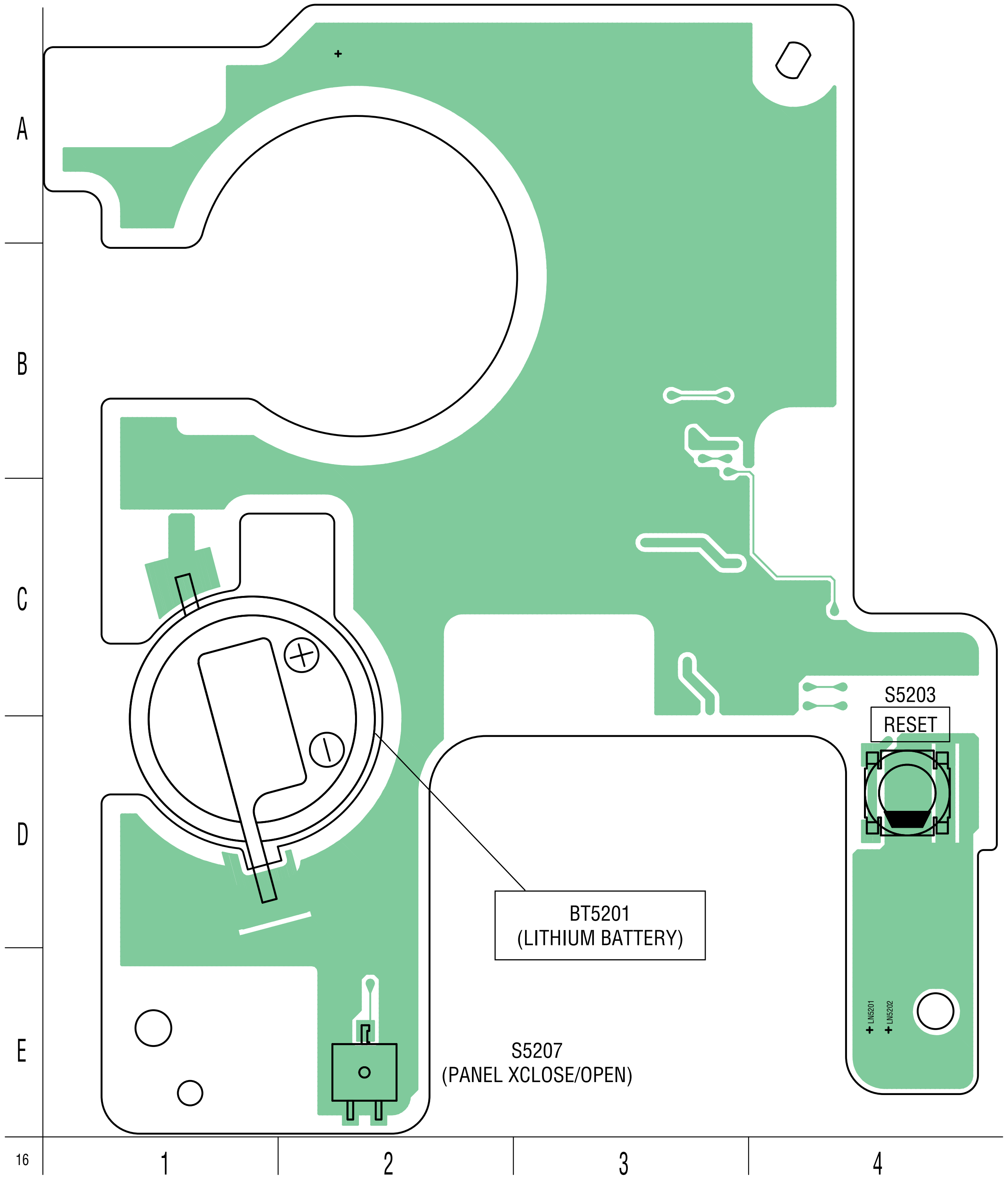

CN4201
20
1
A
B
C
D
CN4001
10
1
C4313
C4303
C4304
L4301
C4314
R4304 R4303 R4302 R4301
R4305
C4310
C4309
C4312
IC4301
20
1
C4311
C4308
C4307
10
11
C4306
C4305
C4301
RB4301
C4302
HF4001
C4215
C4214
C4213
RB4201
C4216
RB4202
C4203
C4212
L4202
C4210
IC4201
24
25
13
12
36
37
48
1
C4211
FB4202
C4209
R4205
C4202
R4201
R4203
R4202
C4203
C4205
C4204
C4201
L4201
C4217
R4213
R4214 R4212
C4208
R4211
C4207
R4210
R4209
R4208
R4206
R4207
D4201
C4218
R4215
FB4201
C4206
IC4202
24
25
13
12
36
37
48
1
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
Q4603
C4601
C4602
LF4602
CN4602
3
1
D4602
D4601
F4602
R4601
R4609
R4607
R4608
R4606
R4526
Q4602
1
4
8
5
R4604
R4605
F4604
R4513
C4603
F4601
F4605
C4559
Q4604
Q4601
2
3
1
C4606
F4603
C4604
L4601
D4102
CN4003
20
1
R4002
C4001
R4204
CN4002
1
36
L4520
C4523
C4533
C4550
C4548
L4515
L4514
L4501
L4505
L4504
C4546
C4544
L4513
L4512
L4506
L4502
C4542
L4511
C4560
L4521
L4507
L4503
CN4005
1
16
CN4603
3
1
1-687-535-
11
12
6
5
4
3
2
1
16

CK-129 (FUNCTION SWITCH) PRINTED WIRING BOARD

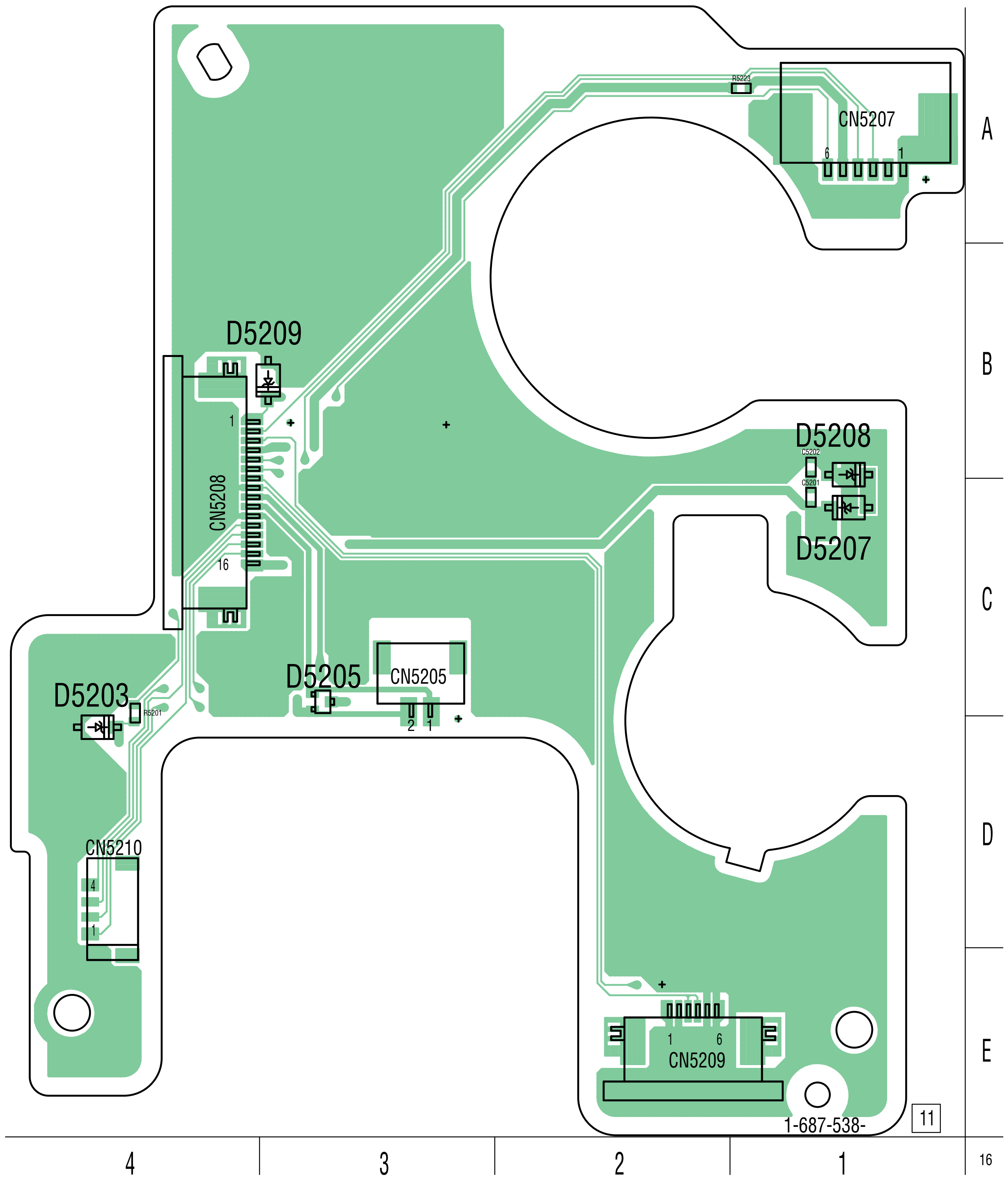
- Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.

CK-129 BOARD(SIDE A)


A
B
C
D
E
16
1
2
3
4
S5203
RESET
BT5201
(LITHIUM BATTERY)
S5207
(PANEL XCLOSE/OPEN)
LN5201
LN5202

CK-129 BOARD(SIDE B)


A
B
C
D
E
16
4
3
2
1
R5223
CN5207
6
1
D5209
CN5208
1
16
D5208
D5202
D5201
D5207
D5203
R5201
D5205
CN5205
2
1
CN5210
4
1
CN5209
1
6
1-687-538-
11

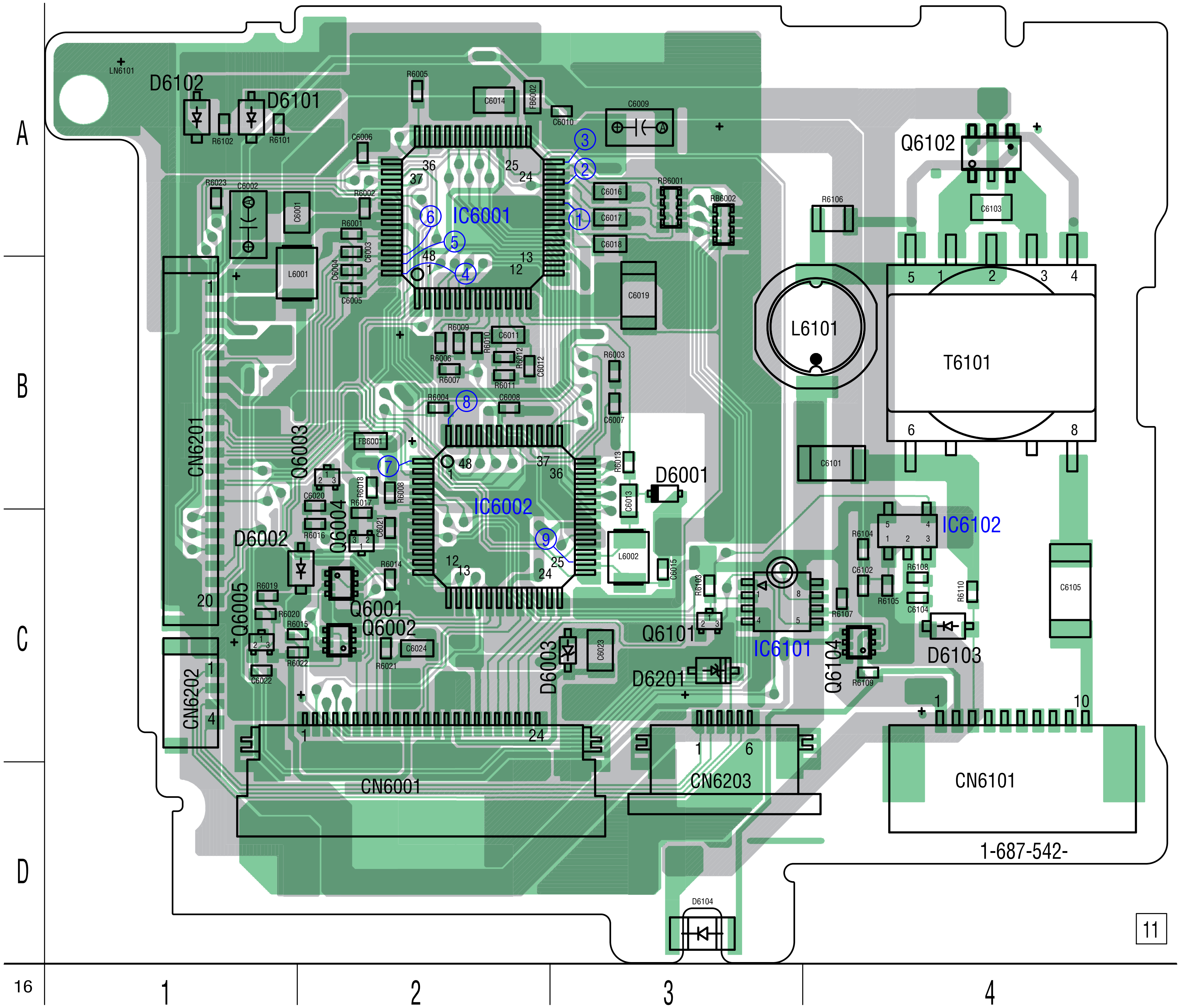
CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

PD-188 (DRIVER, TG, BACKLIGHT DRIVE) PRINTED WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.

PD-188 BOARD

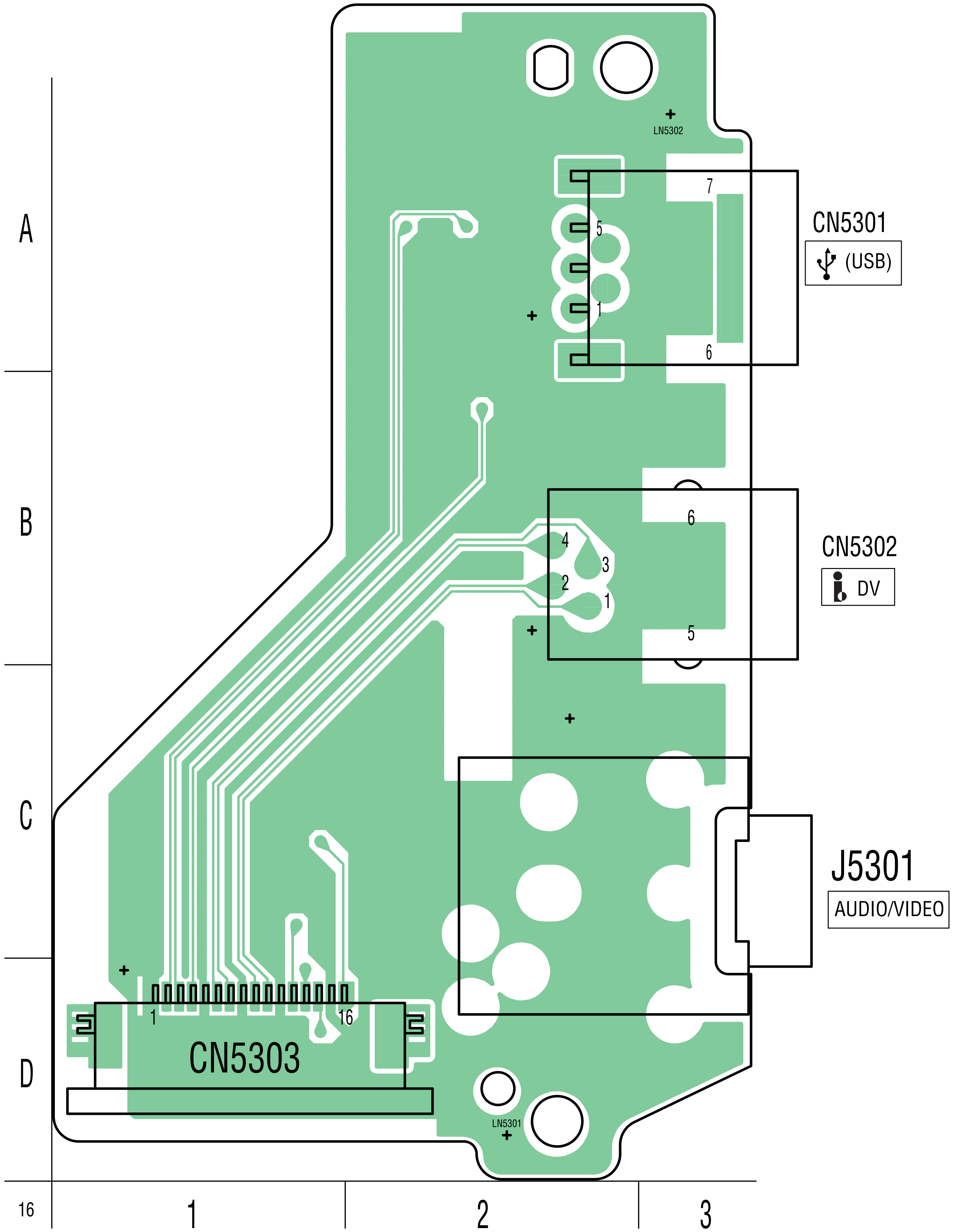

A
B
C
D
1
2
3
4
16
LN6101
D6102
D6101
R6102
R6101
R6005
C6014
FB6002
C6010
C6009
C6006
36
37
25
24
IC6001
48
1
13
12
R6023
C6002
R6002
R6001
C6001
C6003
C6004
C6005
L6001
C6016
C6017
C6018
C6019
RB6001
RB6002
R6106
Q6102
C6103
L6101
T6101
5
1
2
3
4
6
8
CN6201
Q6003
R6009
C6011
R6010
R6012
C6012
R6006
R6007
R6011
R6003
R6004
C6008
C6007
FB6001
IC6002
R6013
C6013
D6001
C6101
R6018
R6017
R6008
C6020
R6016
C6021
Q6004
D6002
R6014
L6002
C6015
R6103
R6104
IC6102
C6102
R6108
R6105
C6104
R6110
C6105
R6019
R6020
R6015
Q6005
Q6001
Q6002
C6024
R6022
R6021
C6022
20
CN6202
D6003
C6023
Q6101
IC6101
R6107
Q6104
R6109
D6103
D6201
CN6001
CN6203
CN6101
10
1-687-542-
D6104
11
①
②
③
④
⑤
⑥
⑦
⑧
⑨

JK-242 (A.V/DV IN/OUT) PRINTED WIRING BOARD

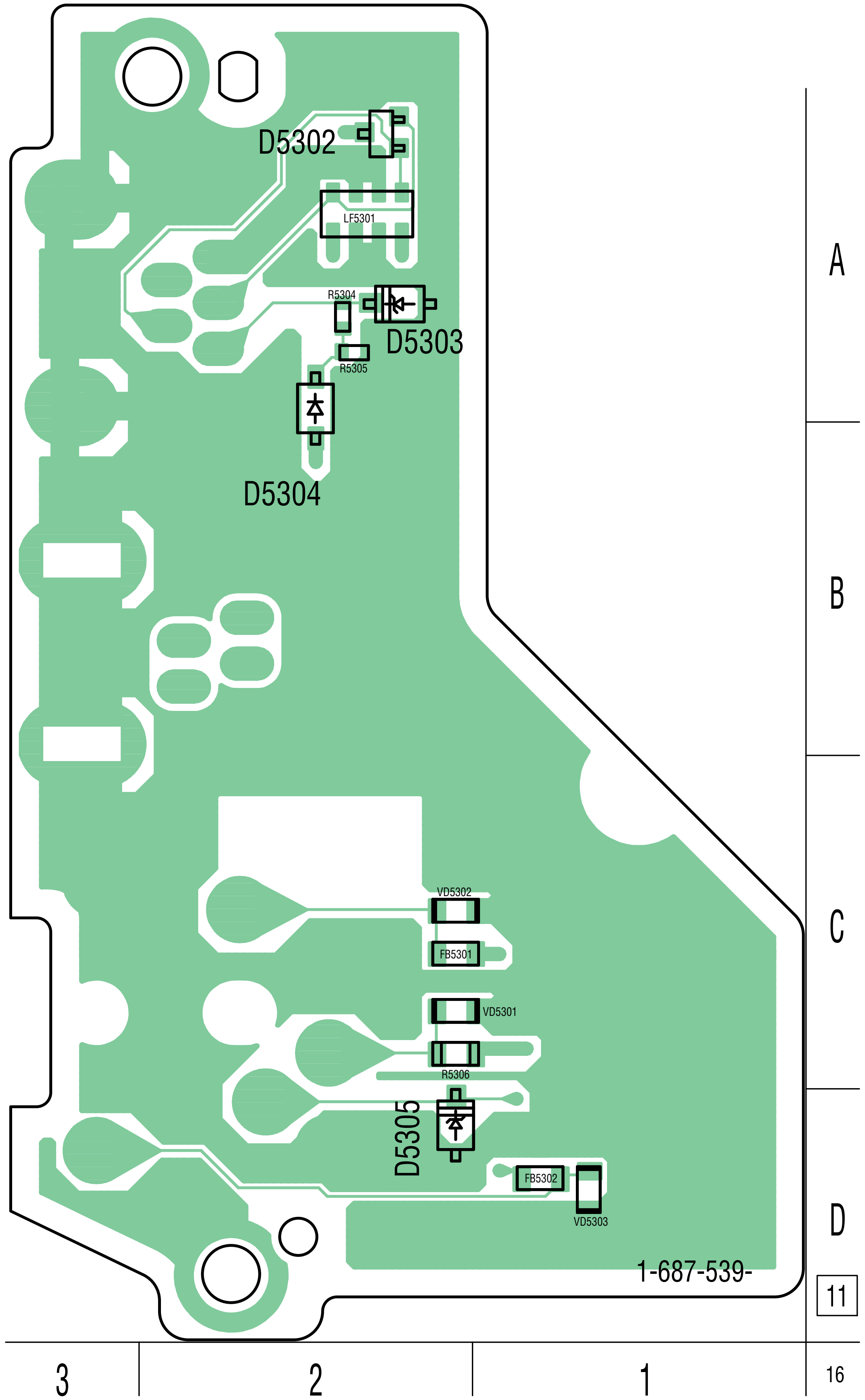
- Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.

JK-242 BOARD(SIDE A)


LN5302
7
5
1
6
CN5301
(USB)
CN5302
DV
6
4
3
2
1
5
J5301
AUDIO/VIDEO
1
16
CN5303
LN5301
A
B
C
D
16
1
2
3

JK-242 BOARD(SIDE B)

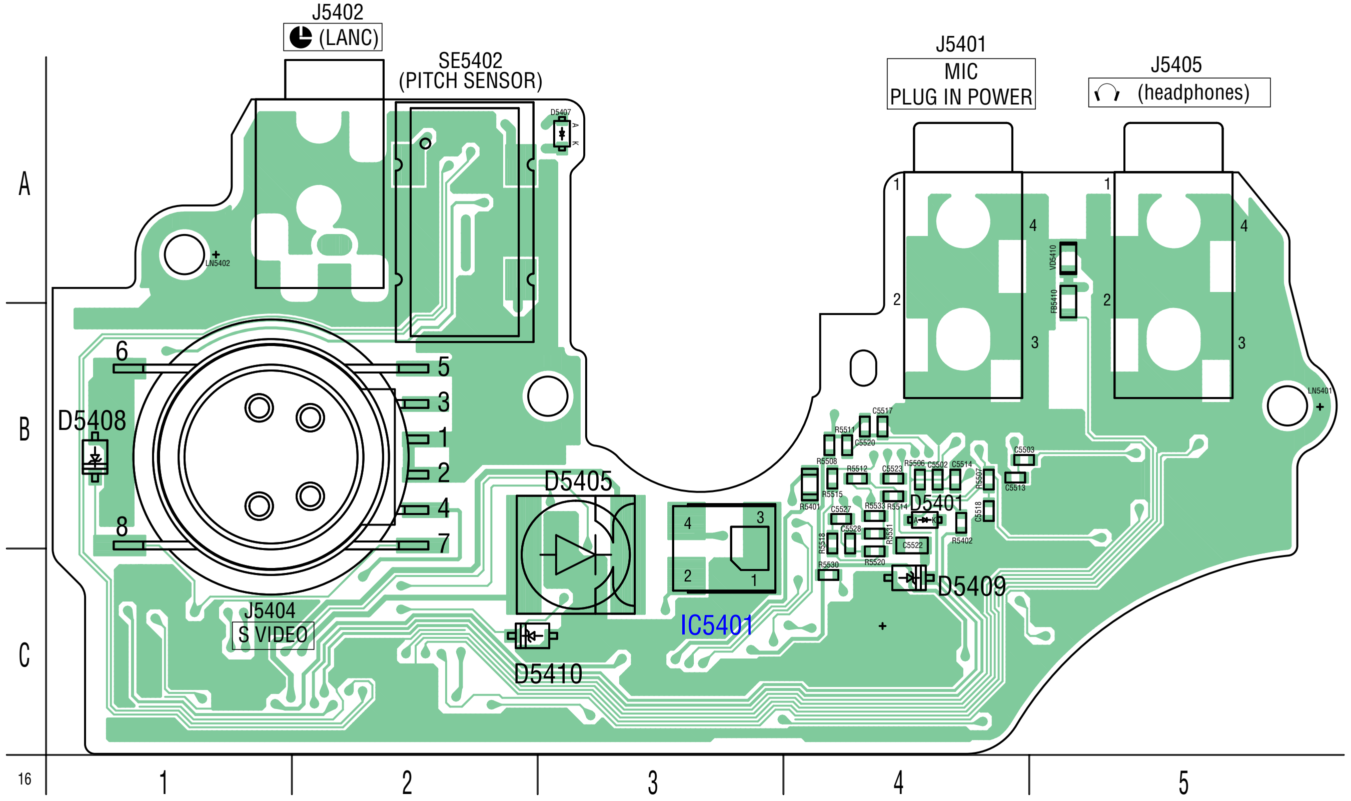

D5302
LF5301
R5304
D5303
R5305
D5304
VD5302
FB5301
VD5301
R5306
D5305
FB5302
VD5303
1-687-539-
11
A
B
C
D
16
3
2
1

MA-421 (MIC AMP, Y/P SENSOR, V/A IN/OUT) PRINTED WIRING BOARD

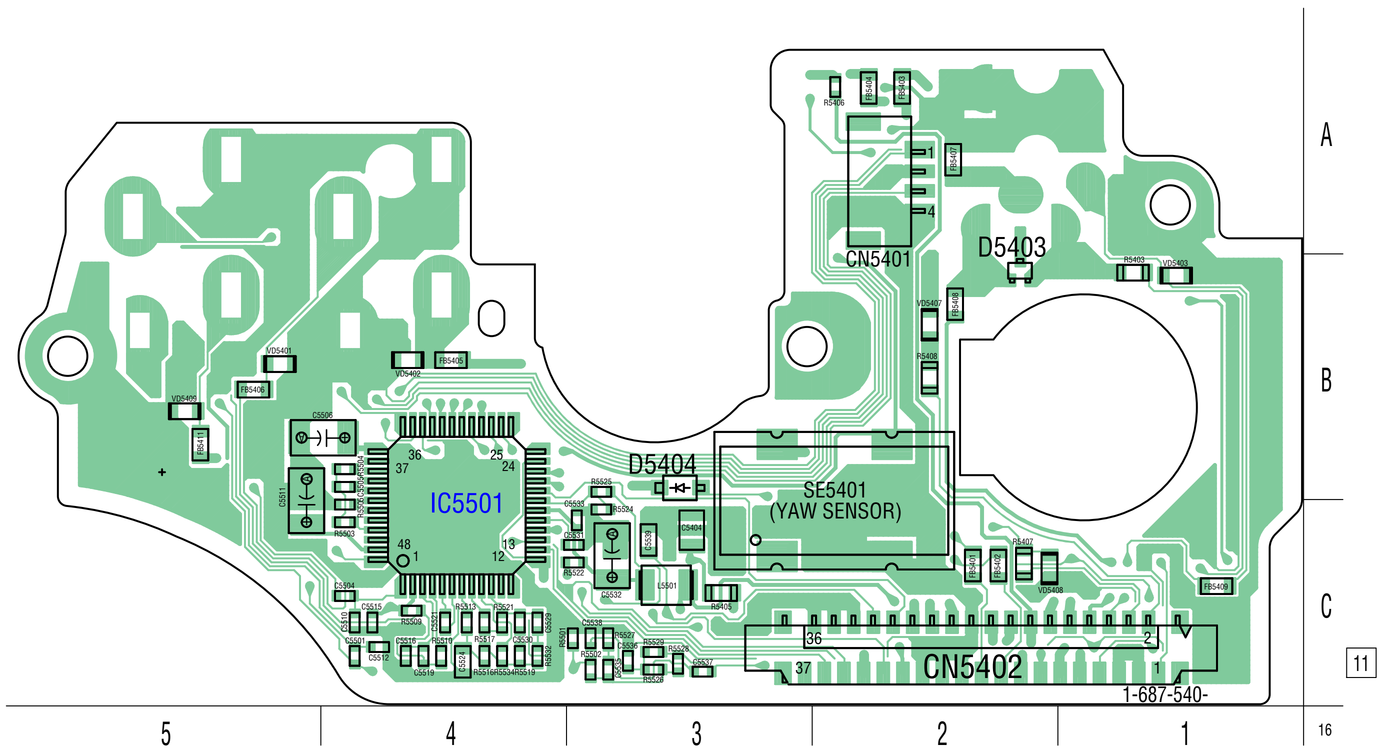
- Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.

MA-421 BOARD(SIDE A)


J5402
(LANC)
SE5402
(PITCH SENSOR)
J5401
MIC
PLUG IN POWER
J5405
(headphones)
D5408
D5405
D5401
D5409
D5410
J5404
S VIDEO
IC5401
A
B
C
1
2
3
4
5
16

MA-421 BOARD(SIDE B)

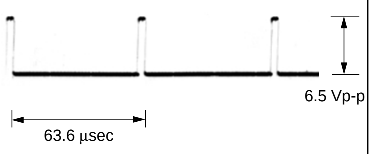

CN5401
D5403
D5404
IC5501
SE5401
(YAW SENSOR)
CN5402
1-687-540-
11
A
B
C
5
4
3
2
1
16

Printed wiring board of the VC-312 board are not shown.
Pages from 4-85 to 4-88 are not shown.

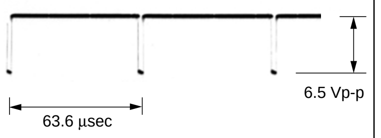
4-4. WAVEFORMS

CD-430 BOARD CAMERA REC

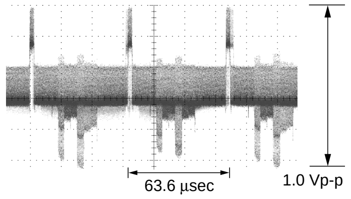
① IC5001 ①,②



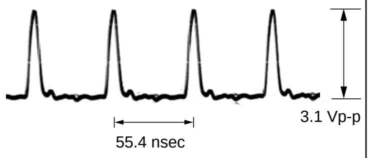
② IC5001 ③,④



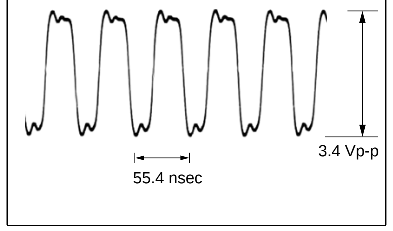
③ IC5001 ⑧



④ IC5001 ⑩

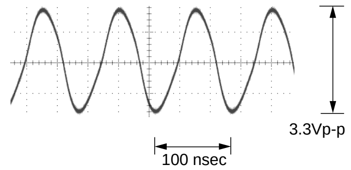


⑤ IC5001 ⑪,⑫

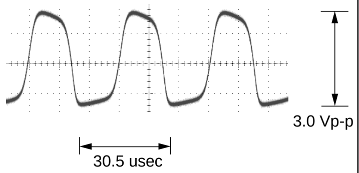


VA-118 BOARD

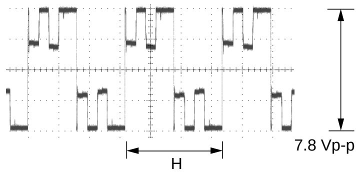
① IC4101 ㉙
REC/PB



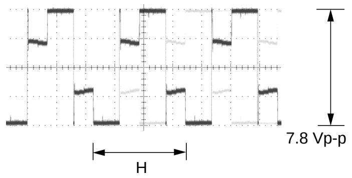
② IC4101 (51)
REC/PB



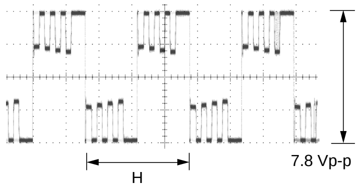
③ IC4201 ⑳
REC/PB (EVF)



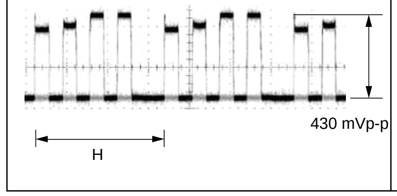
④ IC4201 ㉒
REC/PB (EVF)



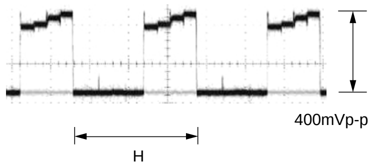
⑤ IC4201 ㉔
REC/PB (EVF)



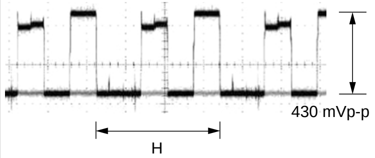
⑥ IC4201 ㊻
REC/PB (EVF)



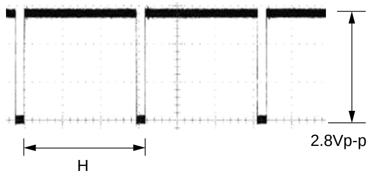
⑦ IC4201 ㊼
REC/PB (EVF)



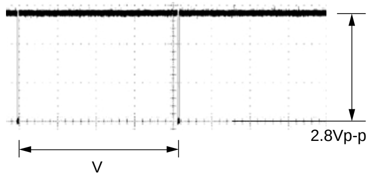
⑧ IC4201 ㊽
REC/PB (EVF)



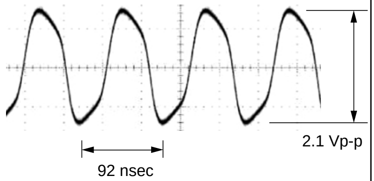
⑨ IC4202 ①
REC/PB



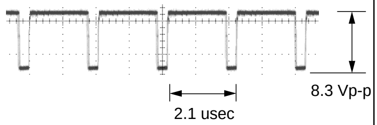
⑩ IC4202 ㊽
REC/PB



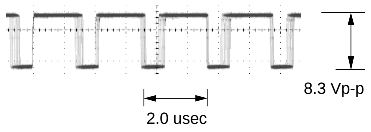
⑪ IC4202 ㉖
REC/PB (EVF)



⑫ IC4501 (61)
REC/PB

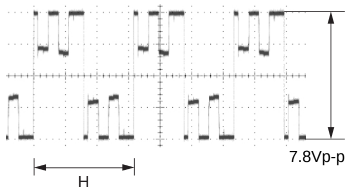


⑬ IC4502 (62)
REC/PB

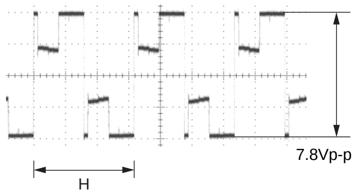


PD-188 BOARD REC/PB

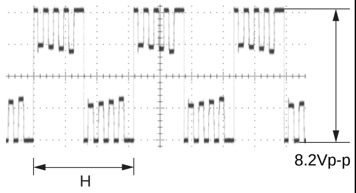
① IC6001 ⑳



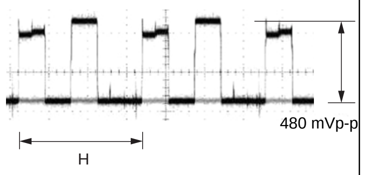
② IC6001 ㉒



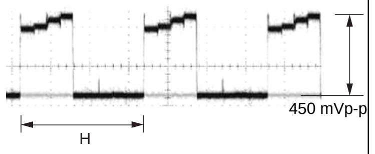
③ IC6001 ㉔



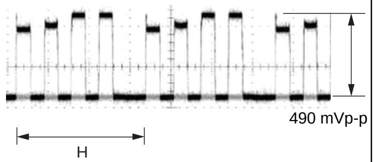
④ IC6001 ㊽



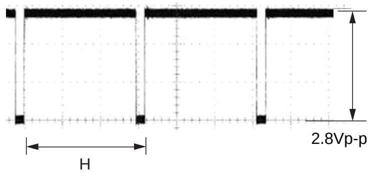
⑤ IC6001 ㊼



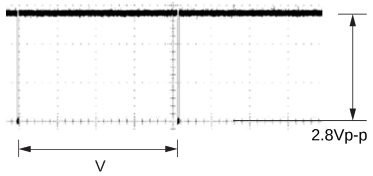
⑥ IC6001 ㊻



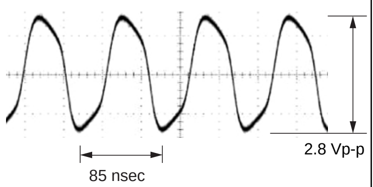
⑦ IC6002 ①



⑧ IC6002 ㊽



⑨ IC6002 ㉖



Waveforms of the VC-312 board are not shown.
Pages 4-91 and 4-92 are not shown.

4-5. MOUNTED PARTS LOCATION

no mark : side A
* mark : side B

CD-430 BOARD

* C5001	C-1
* C5002	B-2
* C5003	C-2
* C5004	C-2
* CN5001	A-2
IC5001	C-2
L5001	C-2
* Q5001	B-1
* R5001	C-2

LB-085 BOARD

* C5601	B-1
* C5602	B-1
CN5601	B-2
CN5602	A-1
* D5601	B-3
* D5602	B-2
* IC5601	C-1
* Q5602	C-1
* R5602	C-3
* R5603	C-3
* R5604	C-1
* R5605	B-1
* R5606	B-3
* R5607	C-2

VA-118 BOARD

* C4001	C-5
C4002	A-4
* C4003	A-3
C4005	C-6
C4006	C-5
C4101	B-4
C4103	B-4
C4105	B-4
C4107	B-4
C4108	A-4
C4109	A-5
C4110	B-4
C4111	B-4
C4112	B-4
C4113	A-5
C4114	A-5
C4115	A-4
C4116	B-5
C4117	B-5
* C4201	C-3
* C4202	C-4
* C4203	C-4
* C4204	C-4
* C4205	C-4
* C4206	B-3
* C4207	B-3
* C4208	B-3
* C4209	B-4
* C4210	B-3
* C4211	B-4
* C4212	A-3
* C4213	A-4
* C4214	A-4
* C4215	A-4
* C4216	B-4
* C4217	B-3
* C4218	B-3
* C4301	B-6
* C4302	B-6
* C4303	A-6
* C4304	A-6
* C4305	B-6
* C4306	B-6
* C4307	B-6
* C4308	B-6
* C4309	B-5
* C4310	A-5
* C4311	B-6
* C4312	A-6
* C4313	A-6
* C4314	A-6
C4501	A-2
C4502	A-2
C4503	B-2
C4504	B-2
C4505	A-2
C4506	A-2
C4507	A-2
C4508	B-2
C4509	A-2
C4510	B-2
C4511	A-2
C4512	A-2
C4513	B-2
C4514	A-2
C4515	A-1
C4516	B-2
C4517	B-2
C4518	A-1
C4519	A-1
C4520	C-2
C4521	D-1
C4522	C-1
* C4523	C-2
C4526	C-2
C4527	C-2
C4528	C-1
C4529	C-2
C4530	D-2
C4531	D-1
C4532	C-1
* C4533	C-2
C4535	D-2
C4536	D-2
C4537	C-2
C4538	D-1
C4539	D-1
C4540	C-2
C4541	D-3
* C4542	D-3
C4543	C-3
* C4544	D-3
C4545	B-3
* C4546	C-3
C4547	C-3
* C4548	C-3
C4549	C-3
* C4550	C-3
C4551	B-1
C4552	D-3
C4553	C-1
C4554	D-3
C4555	C-2
C4557	C-3
C4558	D-3
* C4559	B-2
* C4560	D-3
C4561	A-1
C4562	D-3
* C4601	B-2
* C4602	A-2
* C4603	B-2
* C4604	C-1
C4605	C-1
* C4606	C-1
C4607	A-3
* CN4001	A-4
* CN4002	C-6
* CN4003	C-5
CN4004	D-5
* CN4005	D-4
* CN4201	A-1
* CN4602	A-1
* CN4603	D-1
D4001	A-4
D4002	A-4
D4101	B-6
* D4102	B-5
D4103	C-4
* D4201	B-3
D4502	A-2
D4503	A-1
D4504	C-2
D4507	C-2
* D4601	B-1
* D4602	B-1
D4603	A-3
D4604	A-3
* F4601	B-1
* F4602	B-1
* F4603	C-1
* F4604	B-1
* F4605	B-1
* FB4201	B-3
* FB4202	B-4
IC4101	B-5
* IC4201	B-4
* IC4202	B-3
* IC4301	B-6
IC4502	B-2
IC4504	D-3
* L4201	C-3
* L4202	B-3
* L4301	A-5
* L4501	C-2
* L4502	D-2
* L4503	D-2
* L4504	C-1
* L4505	C-2
* L4506	D-2
* L4507	D-2
L4508	D-1
L4509	D-1
L4510	C-2
* L4511	D-3
* L4512	D-3
* L4513	C-3
* L4514	C-3
* L4515	C-3
L4516	C-3
L4517	C-3
L4518	C-3
L4519	C-3
* L4520	C-2
* L4521	D-3
* L4601	C-1
* LF4601	A-2
* LF4602	A-2
Q4001	C-6
Q4002	C-6
Q4003	C-5
Q4004	C-5
Q4005	C-5
Q4101	B-6
Q4504	C-1
Q4505	D-1
Q4506	C-1
Q4507	C-1
Q4508	C-2
Q4509	D-2
Q4510	C-2
Q4513	C-2
Q4514	D-2
Q4515	C-1
Q4516	D-3
Q4517	C-2
Q4518	D-2
Q4519	C-2
Q4520	C-1
Q4521	C-1
Q4524	D-3
Q4525	D-3
Q4526	A-1
Q4527	A-1
* Q4601	B-2
* Q4602	B-1
* Q4603	B-2
* Q4604	B-2
Q4608	A-3
Q4610	A-3
* R4002	C-5
R4004	D-6
R4005	D-6
R4006	C-6
R4007	C-6
R4008	C-6
R4009	C-6
R4010	D-6
R4103	B-4
R4104	B-4
R4105	B-4
R4106	B-4
R4107	C-4
R4108	C-4
R4109	A-4
R4110	A-4
R4111	A-5
R4112	A-5
R4113	C-4
R4114	A-5
R4115	A-5
R4116	A-4
R4117	B-5
R4118	B-5
R4119	B-6
R4120	B-6
R4121	B-5
R4122	B-4
R4123	B-4
R4124	B-4
* R4201	C-4
* R4202	C-4
* R4203	C-4
* R4204	C-5
* R4205	C-4
* R4206	B-3
* R4207	B-3
* R4208	B-3
* R4209	B-3
* R4210	B-3
* R4211	B-3
* R4212	B-3
* R4213	B-3
* R4214	B-3
* R4215	B-3
* R4301	A-6
* R4302	A-6
* R4303	A-6
* R4304	A-6
* R4305	A-6
R4501	A-2
R4502	B-2
R4503	A-3
R4504	B-3
R4505	B-2
R4506	B-3
R4507	B-2
R4508	B-3
R4509	B-2
R4510	B-2
R4511	B-2
R4512	B-2
* R4513	B-2
R4514	B-2
R4515	B-2
R4516	B-2
R4517	B-1
R4518	B-2
R4519	B-2
R4520	B-2
R4521	B-1
R4522	B-1
R4523	A-2
R4524	B-1
R4525	B-1
* R4526	B-2
R4537	C-2
R4538	B-2
R4539	B-1
R4540	D-2
R4541	C-2
R4542	C-2
R4543	C-1
R4545	D-3
R4546	C-1
R4547	B-1
R4549	D-3
R4550	D-3
R4551	D-3
R4552	C-2
R4553	C-1
R4554	C-1
R4555	C-1
R4556	C-1
R4557	B-1
R4561	D-3
R4562	D-3
R4563	D-3
R4564	D-3
R4567	A-2
* R4601	B-1
* R4604	B-2
* R4605	B-2
* R4606	B-2
* R4607	B-2
* R4608	B-2
* R4609	B-2
R4611	A-3
R4614	A-3
R4615	A-3
RB4101	B-4
RB4104	B-4
RB4105	B-4
RB4106	C-4
RB4107	C-5
RB4108	A-4
RB4109	B-6
* RB4201	B-4
* RB4202	B-3
* RB4301	B-6
X4101	A-5
X4102	B-6

COVER

4-3. PRINTED WIRING BOARDS

no mark : side A
* mark : side B

CK-129 BOARD

* BT5201	C-1
* C5201	C-1
* C5202	B-1
* CN5205	C-3
* CN5207	A-1
* CN5208	C-4
* CN5209	E-2
* CN5210	D-4a
* D5203	D-4
* D5205	C-3
* D5207	C-1
* D5208	B-1
* D5209	B-3
* R5201	D-4
* R5223	A-1
S5203	D-4
S5207	E-2a

PD-188 BOARD

C6001	A-2
C6002	A-1
C6003	A-2
C6004	B-2
C6005	B-2
C6006	A-2
C6007	B-3
C6008	B-2
C6009	A-3
C6010	A-3
C6011	B-2
C6012	B-2
C6013	B-3
C6014	A-2
C6015	C-3
C6016	A-3
C6017	A-3
C6018	A-3
C6019	B-3
C6020	B-2
C6021	C-2
C6022	C-1
C6023	C-3
C6024	C-2
C6101	B-4
C6102	C-4
C6103	A-4
C6104	C-4
C6105	C-4
CN6001	D-2
CN6101	D-4
CN6201	B-1
CN6202	C-1
CN6203	D-3
D6001	B-3
D6002	C-2
D6003	C-3
D6101	A-1
D6102	A-1
D6103	C-4
D6104	D-3
D6201	C-3
FB6001	B-2
FB6002	A-2
IC6001	A-2
IC6002	C-2
IC6101	C-3
IC6102	C-4
L6001	B-2
L6002	C-3
L6101	B-4
Q6001	C-2
Q6002	C-2
Q6003	B-2
Q6004	C-2
Q6005	C-1
Q6101	C-3
Q6102	A-4
Q6103	A-4
Q6104	C-4
R6001	A-2
R6002	A-2
R6003	B-3
R6004	B-2
R6005	A-2
R6006	B-2
R6007	B-2
R6008	B-2
R6009	B-2
R6010	B-2
R6011	B-2
R6012	B-2
R6013	B-3
R6014	C-2
R6015	C-2
R6016	C-2
R6017	C-2
R6018	B-2
R6019	C-1
R6020	C-1
R6021	C-2
R6022	C-2
R6023	A-1
R6101	A-1
R6102	A-1
R6103	C-3
R6104	C-4
R6105	C-4
R6106	A-4
R6107	C-4
R6108	C-4
R6109	C-4
R6110	C-4
RB6001	A-3
RB6002	A-3
T6101	B-4

JK-242 BOARD

CN5301	A-3
CN5302	B-3
CN5303	D-1
* D5302	A-2
* D5303	A-2
* D5304	B-2
* D5305	D-1
* FB5301	C-1
* FB5302	D-1
J5301	C-2
* LF5301	A-2
* R5304	A-2
* R5305	A-2
* R5306	C-1
* VD5301	C-1
* VD5302	C-1
* VD5303	D-1

MA-421 BOARD

C5402	B-4
* C5404	C-3
* C5501	C-4
C5502	B-4
C5503	B-4
* C5504	C-4
* C5505	B-4
* C5506	B-4
* C5510	C-4
* C5511	B-5
* C5512	C-4
C5513	B-4
C5514	B-4
* C5515	C-4
* C5516	C-4
C5517	B-4
C5518	B-4
* C5519	C-4
C5520	B-4
* C5521	C-4
C5522	B-4
C5523	B-4
* C5524	C-4
C5527	B-4
C5528	B-4
* C5529	C-4
* C5530	C-4
* C5531	C-3
* C5532	C-3
* C5533	B-3
* C5535	C-3
* C5536	C-3
* C5537	C-3
* C5538	C-3
* C5539	C-3
* CN5401	A-2
* CN5402	C-2
D5401	B-4
* D5403	B-2
* D5404	B-3
D5405	C-3
D5407	A-3
D5408	B-1
D5409	C-4
* FB5401	C-2
* FB5402	C-2
* FB5403	A-2
* FB5404	A-2
* FB5405	B-4
* FB5406	B-5
* FB5407	A-2
* FB5408	B-2
* FB5409	C-1
FB5410	A-5
* FB5411	B-5
IC5401	C-3
* IC5501	C-4
J5401	A-4
J5402	A-2
J5404	B-1
J5405	A-5
* L5501	C-3
R5401	B-4
R5402	B-4
* R5403	B-1
* R5405	C-3a
* R5406	A-2
* R5407	C-2a
* R5408	B-2
* R5501	C-3
* R5502	C-3
* R5503	C-4
* R5504	B-4
* R5505	C-4
R5506	B-4
R5507	B-4
R5508	B-4
* R5509	C-4
* R5510	C-4
R5511	B-4
R5512	B-4
* R5513	C-4
R5514	B-4
R5515	B-4
* R5516	C-4
* R5517	C-4
R5518	B-4
* R5519	C-4
R5520	C-4
* R5521	C-4
* R5522	C-3
* R5524	C-3
* R5525	B-3
* R5526	C-3
* R5527	C-3
* R5528	C-3
* R5529	C-3
R5530	C-4
R5531	B-4
* R5532	C-4
R5533	B-4
* R5534	C-4
* SE5401	C-2
SE5402	A-2
* VD5401	B-5
* VD5402	B-4
* VD5403	B-1
* VD5407	B-2
* VD5408	C-2
* VD5409	B-5
VD5410	A-5

Mounted parts location of the VC-312 board is not shown.
Page 4-95 is not shown.

COVER

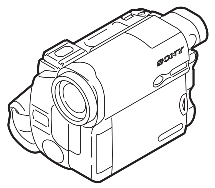
NOTE

5. REPAIR PARTS LIST

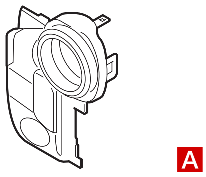
NOTE: Characters A to Z of the electrical parts list indicate location of exploded views in which the desired part is shown.

Link

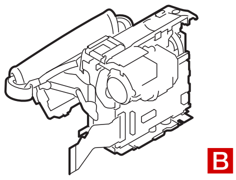
EXPLODED VIEWS



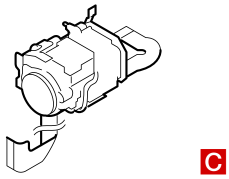
OVERALL SECTION



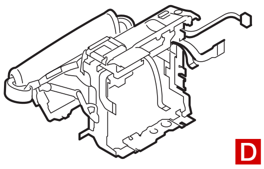
F PANEL SECTION



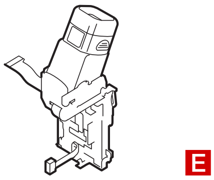
MAIN CHASSIS SECTION



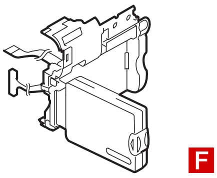
LENS SECTION



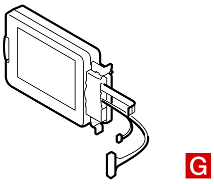
CABINET L SECTION



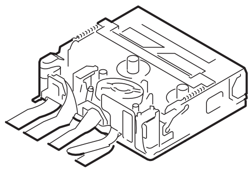
BT PANEL/EVF SECTION



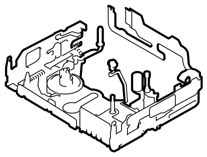
CABINET R SECTION



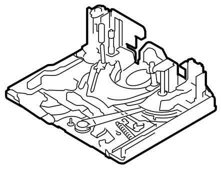
LCD SECTION



OVERALL
(MECHANISM DECK-Z100)



LS CHASSIS BLOCK
ASSEMBLY



MECHANICAL CHASSIS
BLOCK ASSEMBLY

Link

ELECTRICAL PARTS LIST

ACCESSORIES

CD-430 BOARD C	JK-242 BOARD D	PD-188 BOARD G
CK-129 BOARD F	LB-085 BOARD E	VA-118 BOARD B
FP-626 FLEXIBLE BOARD G	MA-421 BOARD A	

5. REPAIR PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- CAPACITORS:
  uF: µF
- COILS
  uH: µH
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...
- Abbreviation
  CND : Canadian model
  AUS : Australian model
  EE : East European model
  NE : North European model
  JE : Tourist model
  CH : Chinese model
  KR : Korea model
  HK : Hong Kong model
  BR : Brazilian model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

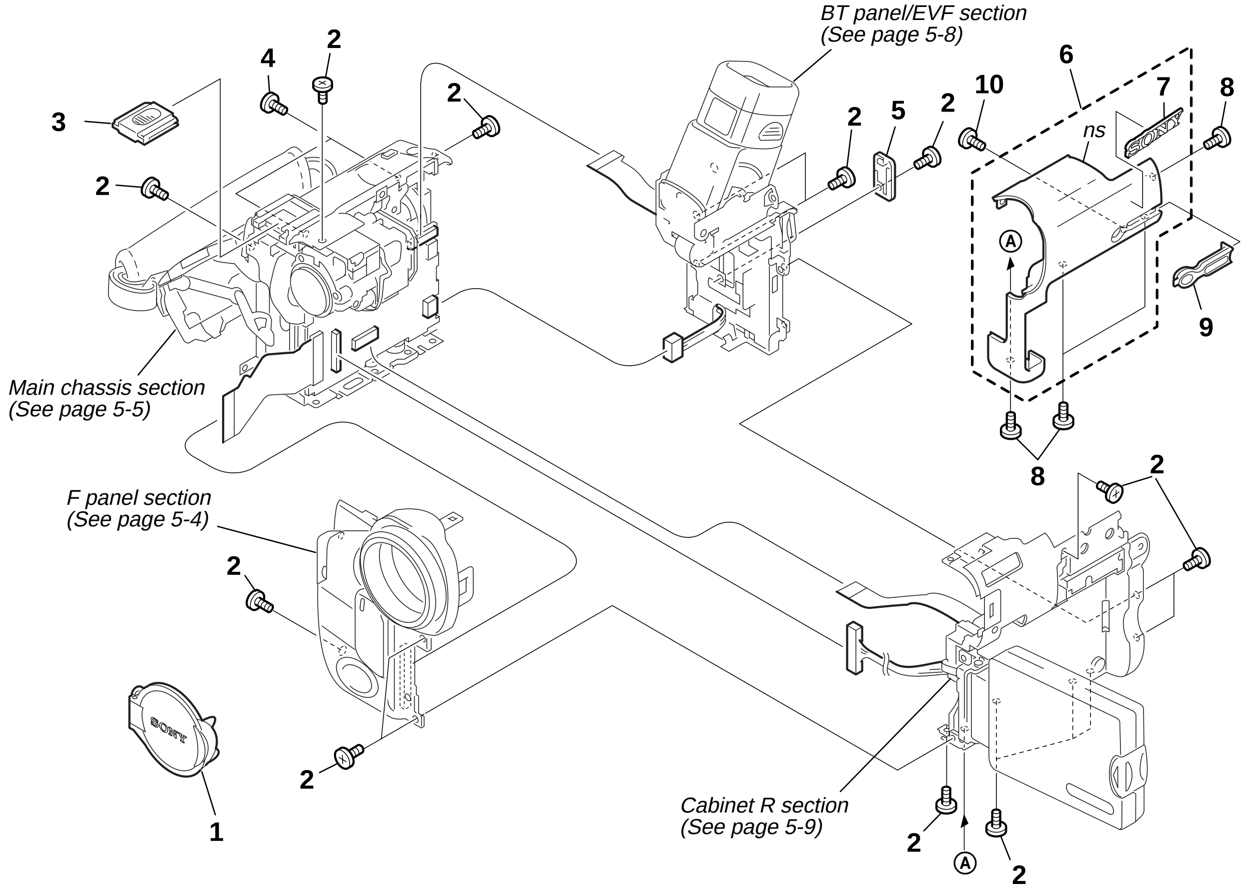
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

5. REPAIR PARTS LIST

5-1. EXPLODED VIEWS

5-1-1. OVERALL SECTION

ns : not supplied


BT panel/EVF section
(See page 5-8)
4
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SONY
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9
Main chassis section
(See page 5-5)
8
2
F panel section
(See page 5-4)
2
SONY
2
1
Cabinet R section
(See page 5-9)
2
A
2

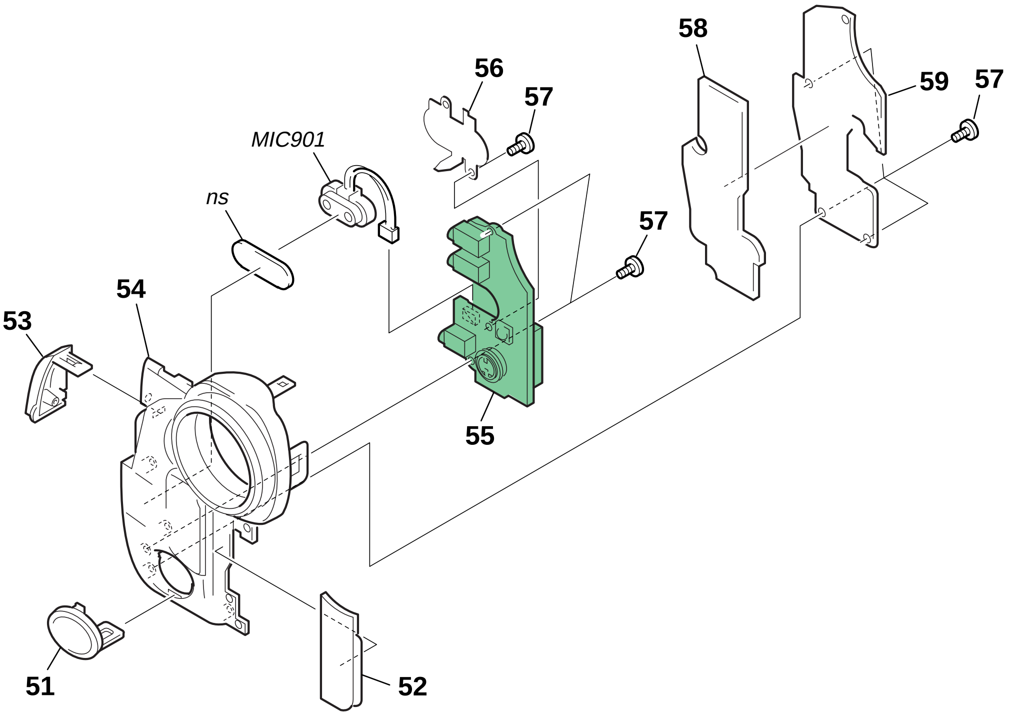
Ref. No.	Part No.	Description	Remarks
1	X-3953-088-1	CAP ASSY, LENS	
2	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
3	3-080-571-01	COVER, SHOE	
4	3-056-030-81	SCREW (M1.7), LOCK ACE, P2	
5	3-080-570-01	LID, CPC	
6	X-3953-228-1	COVER (39E) ASSY, CABINET (R)	
* 7	4-942-636-01	EMBLEM (NO.3.5), SONY	
8	3-989-735-51	SCREW (M1.7), LOCK ACE, P2	
9	3-080-421-01	BUTTON, CF	
10	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	

COVER

5. REPAIR PARTS LIST

5-1-2. F PANEL SECTION

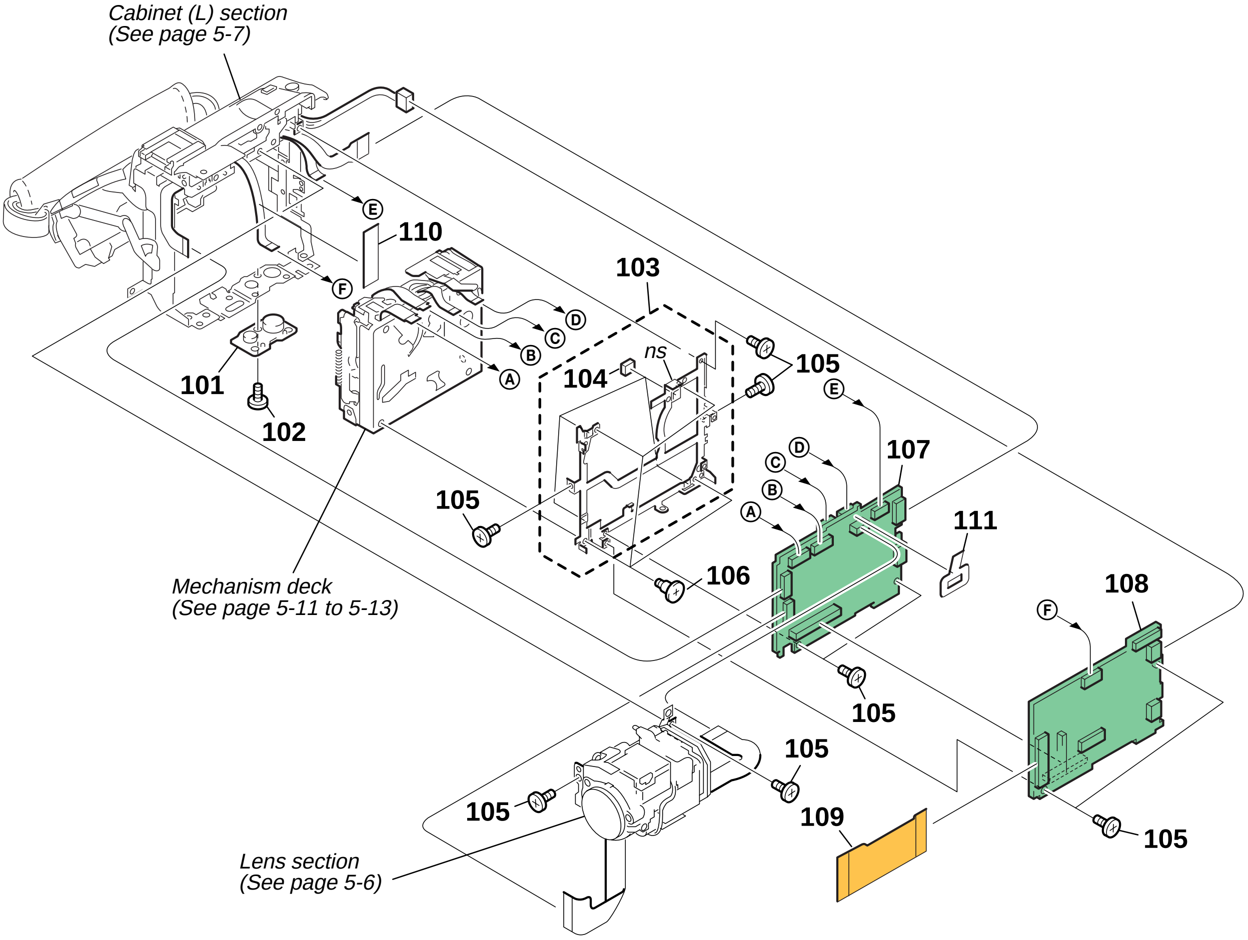
ns : not supplied



Ref. No.	Part No.	Description	Remarks
51	3-080-516-01	COVER, S TERMINAL	
52	3-080-402-01	PLATE, NAME (TRV22)	
52	3-080-402-41	PLATE, NAME (TRV22E)	
53	3-080-573-01	COVER (F), JACK	
54	X-3953-213-1	PANEL (395) ASSY, F	
55	A-7013-530-A	MA-421 (MSARI) BOARD, COMPLETE	
56	3-080-517-01	RETAINER, MICROPHONE	
57	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
58	3-080-519-01	CUSHION, MA COVER	
59	3-080-514-01	COVER, MA	
MIC901	1-542-513-11	MICROPHONE	

5-1-3. MAIN CHASSIS SECTION

ns : not supplied



Cabinet (L) section
(See page 5-7)

Mechanism deck
(See page 5-11 to 5-13)

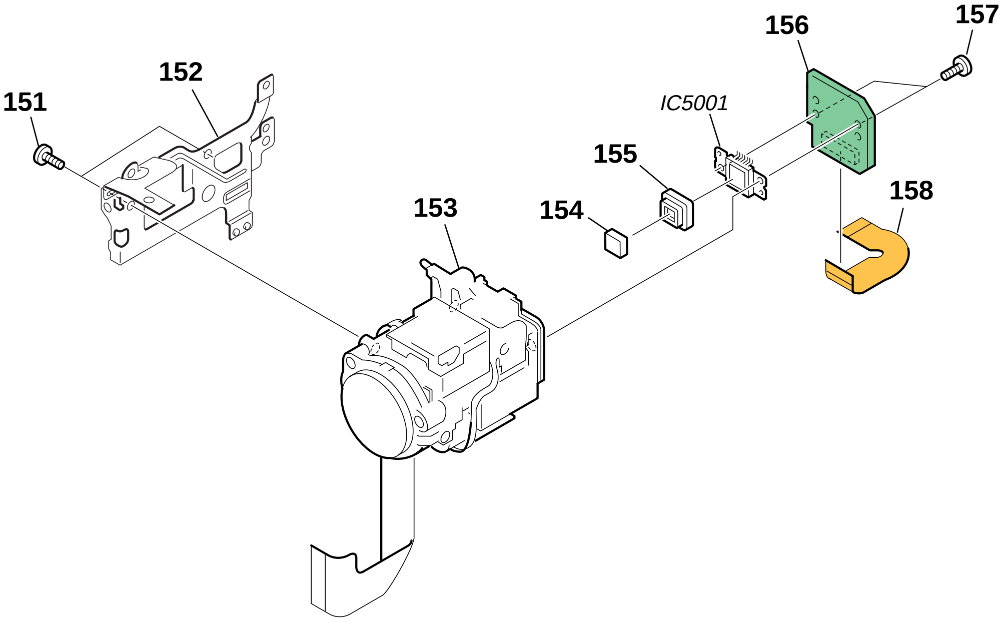
Lens section
(See page 5-6)

Ref. No.	Part No.	Description	Remarks
101	3-080-569-01	SCREW	
102	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
103	X-3953-112-1	FRAME ASSY, MD	
104	3-975-921-01	SHEET, VIBRATION PROOF	
105	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
106	3-062-214-01	SCREW (M1.4X1.5)	
107	A-7078-607-A	VC-312 BOARD, COMPLETE (SERVICE)	
108	A-7013-554-A	VA-118 (MDF) BOARD, COMPLETE	
109	1-687-546-11	FP-621 FLEXIBLE BOARD	
110	3-941-343-21	TAPE (A)	
111	3-081-787-01	SHEET, RF	

COVER

5. REPAIR PARTS LIST

5-1-4. LENS SECTION



Be sure to read "Precautions upon replacing CCD imager" on page 4-9 when changing the CCD imager.

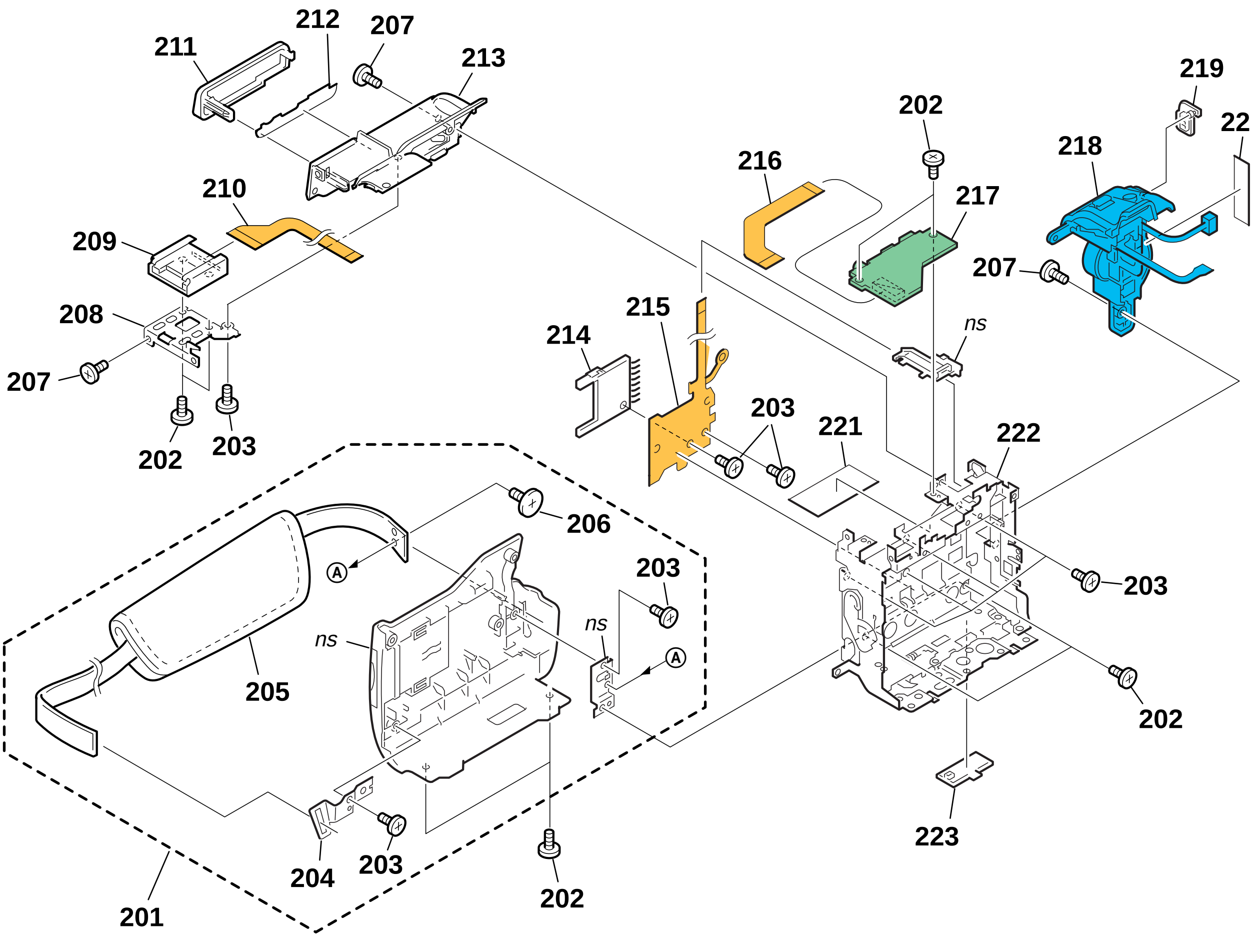
Ref. No.	Part No.	Description	Remarks
151	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
152	X-3953-110-1	FRAME (39) ASSY, LENS	
153	8-848-767-01	DEVICE, LENS LSV-650E	
154	1-758-155-21	FILTER BLOCK, OPTICAL	
155	3-053-973-01	RUBBER (W), SEAL	

Ref. No.	Part No.	Description	Remarks
156	A-7013-526-A	CD-430 BOARD, COMPLETE	
157	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
158	1-687-547-11	FP-623 FLEXIBLE BOARD	
IC5001	A-7031-244-A	CCD BLOCK ASSY (CCD IMAGER) (TRV22)	
IC5001	A-7031-276-A	CCD BLOCK ASSY (CCD IMAGER) (TRV22E)	

5. REPAIR PARTS LIST

5-1-5. CABINET L SECTION

ns : not supplied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201

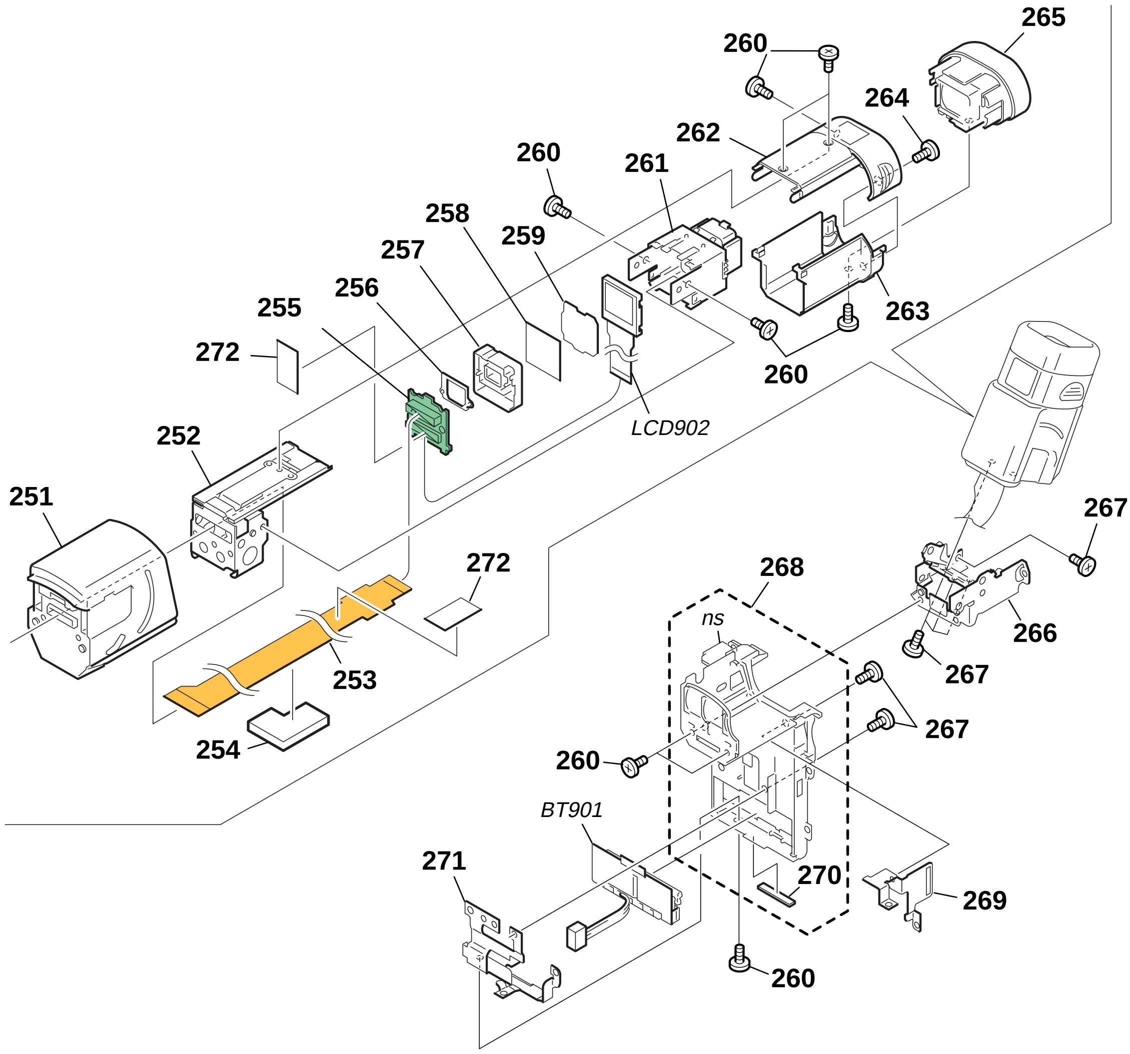
Ref. No.	Part No.	Description	Remarks
201	X-3953-219-2	CABINET (G) ASSY (40E)	
202	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
203	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
204	3-080-468-01	SHEET METAL (FRONT), GRIP BELT	
205	3-080-467-01	BELT, GRIP	
206	3-073-686-11	SCREW (M2X2.5)	
207	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
208	3-080-473-01	FRAME, SHOE	
209	1-793-996-11	CONNECTOR, EXTERNAL	
210	1-687-545-11	FP-620 FLEXIBLE BOARD	
211	3-080-572-01	COVER (L), JACK	
212	3-080-576-11	SHEET (L), JACK	
213	X-3953-217-1	CABINET (L) ASSY (39E)	
214	1-815-795-11	CONNECTOR, MEMORY STCK	
215	1-687-551-11	FP-630 FLEXIBLE BOARD	
216	1-687-549-11	FP-625 FLEXIBLE BOARD	
217	A-7013-551-A	JK-242 BOARD, COMPLETE	
218	1-477-740-21	SWITCH BLOCK, CONTROL (FK-CX4000)	
219	3-082-335-01	COVER, JACK DC-IN (SERVICE)	
220	3-076-631-01	RETAINER, FK FLEXIBLE	
221	3-081-434-01	SHEET Z	
222	X-3953-096-1	FRAME ASSY, CS	
223	3-080-471-01	KNOB, EJECT	

COVER

5. REPAIR PARTS LIST

5-1-6. BT PANEL/EVF SECTION

ns : not supplied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LCD902
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BT901
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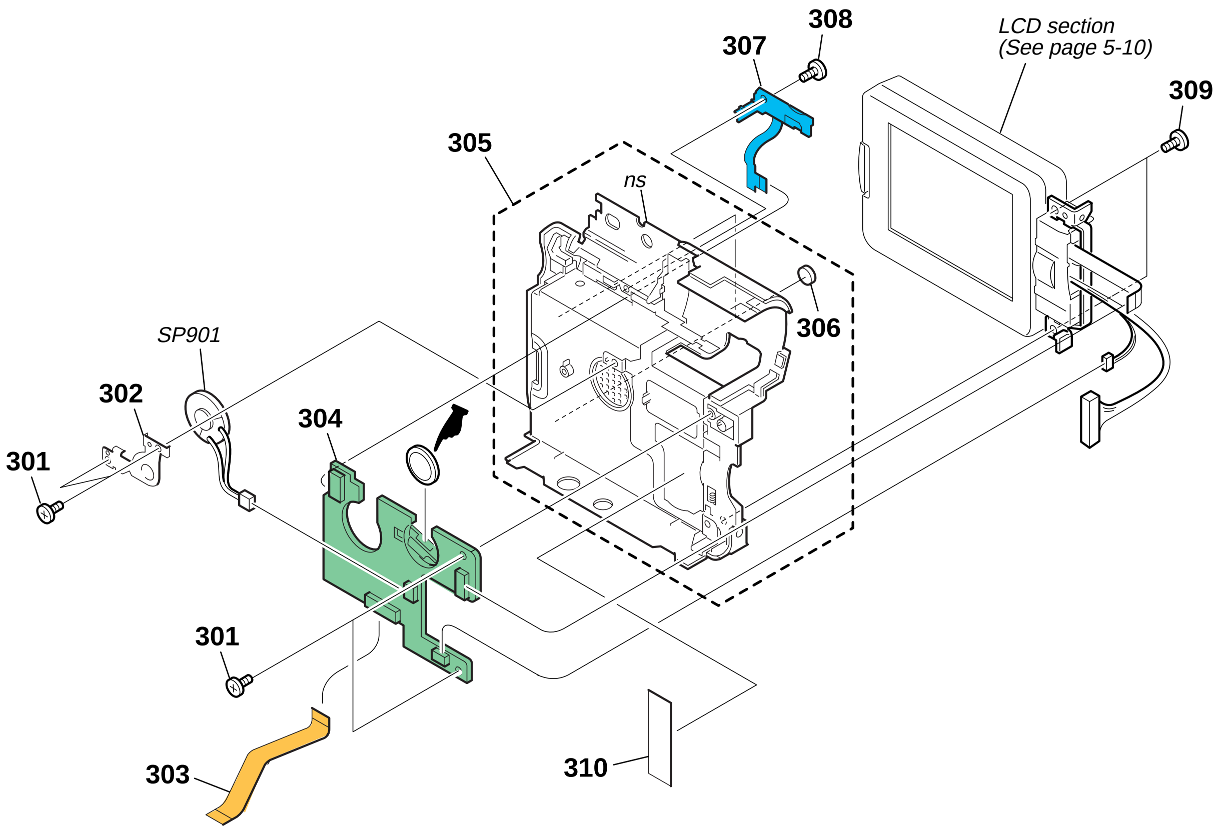
Ref. No.	Part No.	Description	Remarks
251	3-080-420-01	CABINET, VF TILT	
252	X-3953-118-1	SLIDE ASSY, VF	
253	1-687-544-21	FP-619 FLEXIBLE BOARD	
254	3-081-694-02	RETAINER, EVF FLEXIBLE	
255	A-7013-525-A	LB-085 (C) BOARD, COMPLETE	
256	3-080-615-01	CUSHION (LB) (40)	
257	3-080-618-01	GUIDE (40), LAMP	
258	3-080-613-01	ILLUMINATOR (40)	
259	3-080-614-01	SHEET (40), PRISM	
260	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
261	X-3953-119-1	CABINET ASSY, LCD	
262	X-3953-117-1	CABINET (UPPER) ASSY, VF SLIDE	
263	3-080-617-01	CABINET (LOWER), VF SLIDE	
264	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
265	X-3953-115-1	EYE CUP (40) ASSY	
266	X-3953-116-1	HINGE ASSY, VF	
267	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
268	X-3953-113-1	PANEL ASSY, BATTERY (TRV22:US,CND,E,HK,JE,KR/TRV22E)	
268	X-3953-297-1	PANEL ASSY, BATTERY (TRV22:BR)	
269	X-3953-349-2	SHEET METAL (UPPER) ASSY STRAP	
270	3-080-543-01	SHEET, FOOT	
271	X-3953-114-1	SHEET METAL (LOWER) ASSY,STRAP	
272	3-083-290-01	SHEET (VF)	
BT901	1-694-796-11	TERMINAL BOARD, BATTERY	
LCD902	8-753-028-47	LCX032AN-5	

5-1-7. CABINET R SECTION

ns : not supplied



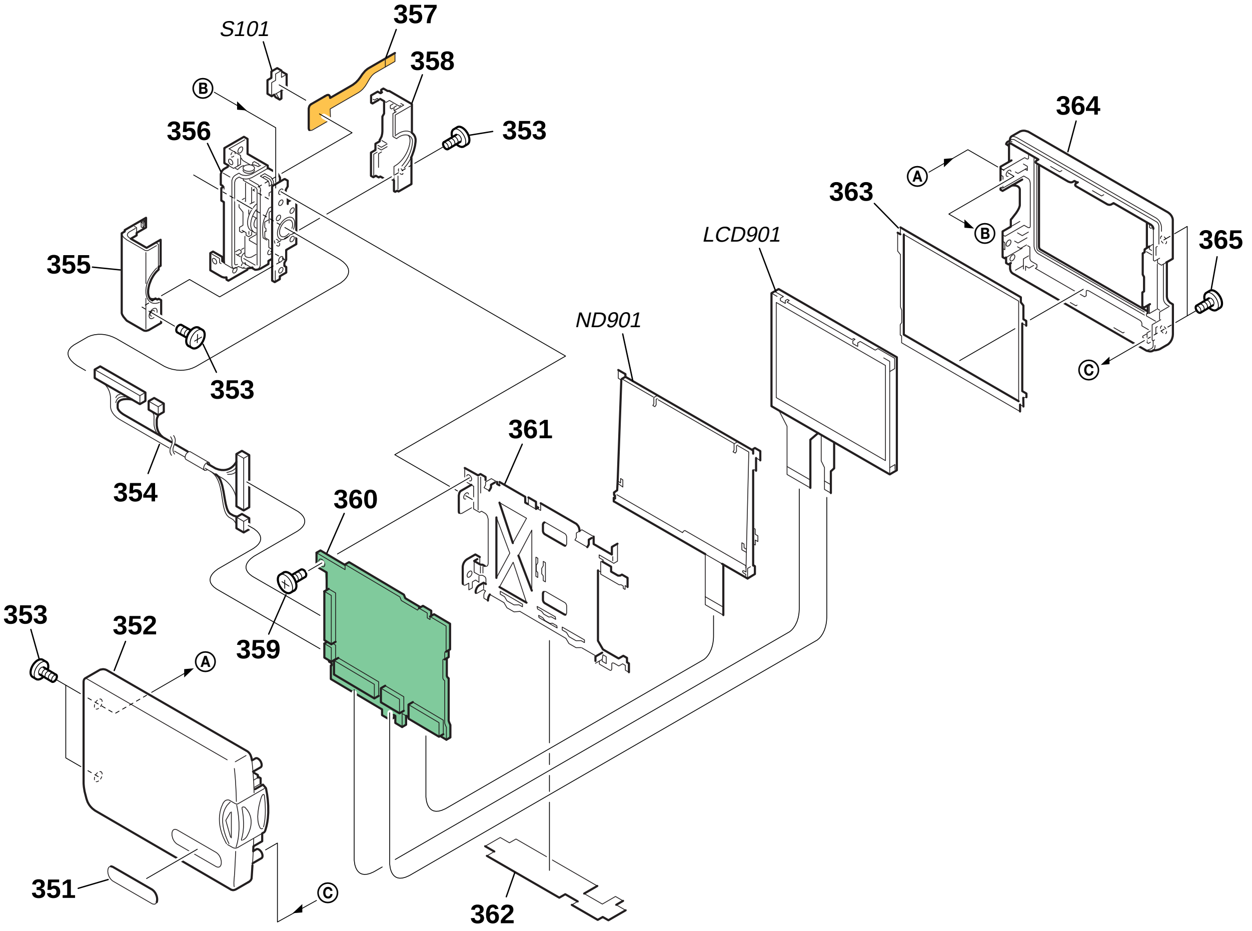
☛ : BT5201 (Lithium battery) CK-129 board on the mount position. (See page 4-77)

CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

Ref. No.	Part No.	Description	Remarks
301	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
302	X-3953-097-1	RETAINER ASSY, SPEAKER	
303	1-687-543-11	FP-618 FLEXIBLE BOARD	
304	A-7013-534-A	CK-129 BOARD, COMPLETE	
305	X-3953-095-1	CABINET (R) ASSY	
306	3-959-978-02	CUSHION, PANEL	
307	1-477-741-11	SWITCH BLOCK, CONTROL (CF-CX4000)	
308	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
309	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
310	3-941-343-21	TAPE (A)	
SP901	1-825-260-21	LOUD SPEAKER (1.6CM)	

5-1-8. LCD SECTION

ns : not supplied

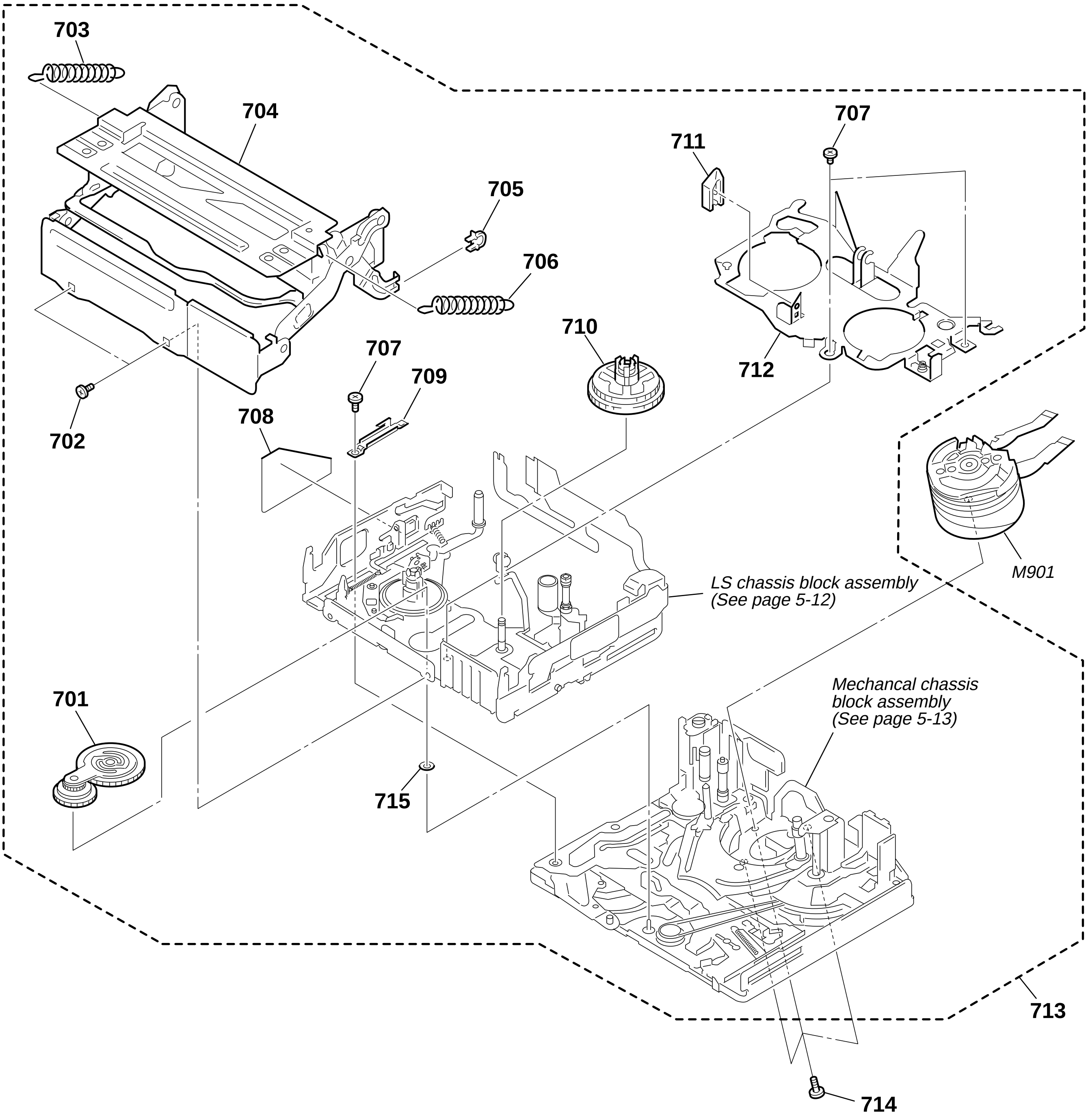


Ref. No.	Part No.	Description	Remarks
351	3-080-441-01	EMBLEM, P	
352	X-3953-103-1	CABINET (C) ASSY, P	
353	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
354	1-962-081-11	HARNESS (PV-140)	
355	3-080-387-01	COVER (C) (40), HINGE	
356	X-3953-107-2	HINGE (40) ASSY	
357	1-687-550-11	FP-626 FLEXIBLE BOARD	
358	3-080-496-01	COVER (M) (40), HINGE	
359	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
360	A-7013-528-A	PD-188 BOARD, COMPLETE	
361	3-080-498-01	FRAME (40), PANEL	
362	3-080-499-01	SHEET (40), INSULATING, LCD	
363	3-080-497-01	CUSHION (T), LCD	
364	X-3953-106-1	CABINET (M) (40) ASSY, P	
365	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
LCD901	8-753-052-10	ACX307AKM-1	
⚠ND901	1-477-755-11	BLOCK LIGHT GUIDE PLATE (2.5)	
S101	1-771-039-31	SWITCH, PUSH (PANEL REVERSE)	

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

5. REPAIR PARTS LIST

5-1-9. OVERALL (MECHANISM DECK-Z100)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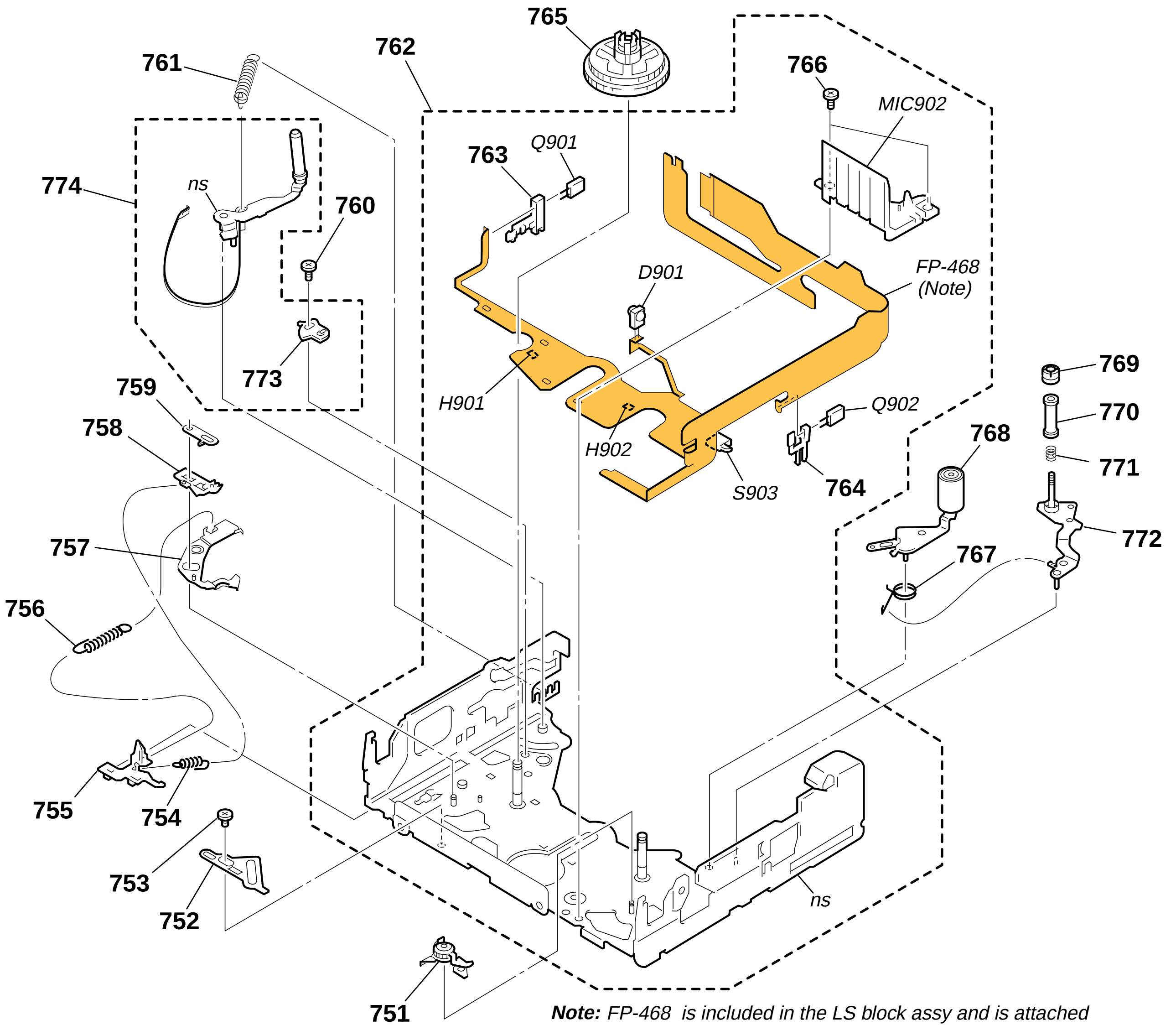
702
LS chassis block assembly
(See page 5-12)
M901
701
Mechancal chassis
block assembly
(See page 5-13)
715
713
714

Ref. No.	Part No.	Description	Remarks
701	X-3952-938-3	GEAR ASSY, GOOSENECK	
702	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD	
703	3-079-206-02	SPRING (POP UP S), TXTENSION	
704	X-3952-939-3	COMPARTMENT ASSY, CASSETTE	
705	3-079-367-02	DAMPER, CASSETTE COMPARTMENT	
706	3-079-215-02	SPRING (POP UP T), EXTENSION	
707	3-703-816-15	SCREW (M1.4), SPECIAL HEAD	
708	3-080-545-01	COVER, SENSOR S	
709	3-079-364-01	RETAINER, LS GUIDE	
710	X-3952-937-1	TABLE ASSY, T REEL	
711	3-079-366-01	RELEASE, REEL LOCK	
712	X-3953-257-1	PLATE ASSY,RETAINER	
713	A-7095-393-A	MD (Z100) SUB ASSY	
714	3-079-741-02	SCREW,DRUM FIXING	
715	3-748-682-01	WASHER, T	
M901	A-7048-981-A	DRUM (DEH-30A-R) (SERVICE)	

5-1-10. LS CHASSIS BLOCK ASSEMBLY

ns : not supplied



Note: *FP-468 is included in the LS block assy and is attached to chassis by hot-press. because installation of FP-468 requires a very high accuracy, FP-468 is hot supplied as an independent service parts.*

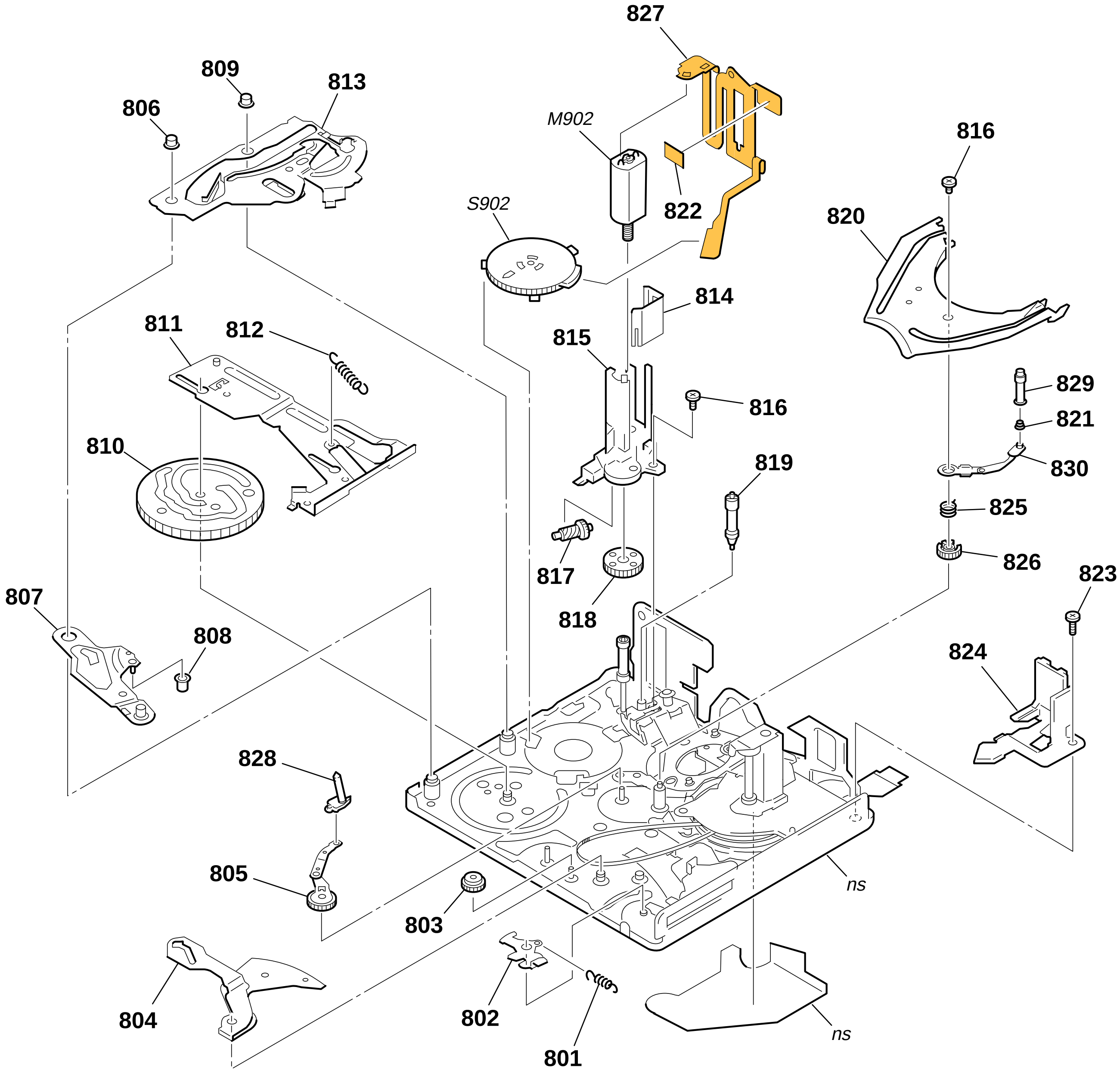
Ref. No.	Part No.	Description	Remarks
751	A-7095-402-B	BRAKE (T) BLOCK ASSY	
752	3-079-241-01	PLATE, LS CAM	
753	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD	
754	3-079-246-01	SPRING(RELEASE RACK),EXTENSION	
755	3-079-248-01	POSITIONING(S), CASSETTE	
756	3-079-244-01	SPRING (ULE), EXTENSION	
757	X-3952-932-2	BRAKE ASSY, ULE	
758	3-079-245-01	RACK (S), RELEASE	
759	3-079-247-01	BRAKE (S)	
760	3-059-090-11	SCREW (M1.4X2.5), SPECIAL HEAD	
761	3-079-242-01	SPRING, TENSION (TENSION REGULATOR)	
762	A-7095-401-A	LS BLOCK ASSY	
763	3-079-267-01	HOLDER (S), SENSOR	
764	3-079-268-01	HOLDER (T), SENSOR	
765	X-3952-936-2	TABLE ASSY, S REEL	
766	3-703-816-15	SCREW (M1.4), SPECIAL HEAD	
767	3-079-243-02	SPRING (PINCH RETURN), TORSION	
768	X-3952-934-1	ARM ASSY, PINCH	
769	3-052-062-02	NUT, TG7	
770	3-079-219-02	TG7	
771	3-081-591-01	SPRING, COMPRESSION (TG7)	
772	X-3952-935-3	ARM ASSY, TG7	
773	3-079-237-01	ADJUSTOR, BAND	
774	A-7095-403-B	TG2 ARM BLOCK ASSY	
MIC902	1-817-175-12	PIN, CONNECTOR (WITH DETECTION SWITCH)	
S903	1-529-566-51	SWITCH, PUSH (1 KEY) (C.C. DOWN)	
D901	6-500-652-01	DIODE GL453SE0000F (TAPE LED)	
H901	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (S REEL)	
H902	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (T REEL)	
Q901	6-550-402-01	TRANSISTOR PT4850FE000F (TAPE END)	
Q902	6-550-402-01	TRANSISTOR PT4850FE000F (TAPE TOP)	

COVER

5. REPAIR PARTS LIST

5-1-11. MECHANICAL CHASSIS BLOCK ASSEMBLY

ns : not supplied



Ref. No.	Part No.	Description	Remarks
801	3-079-314-01	SPRING (EJ), EXTENSION	
802	3-079-327-01	ARM, EJ	
803	3-079-323-02	GEAR, CONVERSION	
804	3-079-324-01	ARM, GL DRIVING	
805	X-3952-928-1	GL (S) ASSY	
806	3-079-315-01	ROLLER (S1), LS GUIDE	
807	X-3952-925-2	ARM ASSY, LS	
808	3-079-320-01	ROLLER, LS	
809	3-079-316-01	ROLLER (S2), LS GUIDE	
810	3-079-319-01	GEAR, CAM	
811	X-3952-941-3	SLIDER ASSY, M	
812	3-079-321-02	SPRING (PINCH), EXTENSION	
813	X-3952-940-2	PLATE ASSY, TG2 CAM	
814	3-079-312-01	SHIELD, MOTOR	
815	3-079-307-01	HOLDER, MOTOR	
816	3-703-816-15	SCREW (M1.4), SPECIAL HEAD	

Ref. No.	Part No.	Description	Remarks
817	3-079-308-01	SHAFT, WORM	
818	3-079-309-01	GEAR, DECELERATION	
819	X-3952-942-3	ROLLER ASSY, TG3	
820	3-079-325-01	RAIL, GUIDE	
821	3-079-295-02	SPRING, TG5	
822	1-677-049-11	FP-228 FLEXIBLE BOARD (DEW SENSOR)	
823	3-079-328-01	SCREW ,SPECIAL (EG GRIP)	
824	3-079-326-02	SUPPORT, TG7	
825	3-079-301-01	SPRING (GLT), TORSION	
826	3-079-298-01	GEAR (T), GL	
827	1-686-798-11	FP-467 FLEXIBLE BOARD	
828	X-3952-927-2	COASTER (S) ASSY	
829	X-3952-930-4	ROLLER ASSY, TG5	
830	X-3952-929-3	COASTER (T) ASSY	
M902	A-7095-396-A	MOTOR BLOCK ASSY, L (LOADING)	
S902	1-477-679-11	ROTARY, ENCODER (MODE)	

5-2. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description			
	A-7013-526-A	CD-430 BOARD, COMPLETE ************************			
		(IC5001 is not included in this COMPLETE board)			
		< CAPACITOR >			
C5001	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C5002	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C5003	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5004	1-113-987-11	TANTAL. CHIP	4.7uF	20%	25V
		< CONNECTOR >			
CN5001	1-691-352-21	CONNECTOR, FFC/FPC (ZIF) 14P			
		< COIL >			
L5001	1-414-406-11	INDUCTOR	220uH		
		< IC >			
IC5001	A-7031-244-A	CCD BLOCK ASSY (CCD IMAGER)(TRV22)			
IC5001	A-7031-276-A	CCD BLOCK ASSY (CCD IMAGER)(TRV22E)			
		< TRANSISTOR >			
Q5001	8-729-117-73	TRANSISTOR	2SC4178-F13F14-T1		
		< RESISTOR >			
R5001	1-216-827-11	METAL CHIP	3.3K	5%	1/16W

Ref. No.	Part No.	Description			
	A-7013-534-A	CK-129 BOARD, COMPLETE **********************			
		< BATTERY >			
BT5201	1-756-128-11	BATTERY, LITHIUM (SECONDARY)			
		< CONNECTOR >			
CN5205	1-778-506-21	PIN, CONNECTOR (PC BOARD) 2P			
CN5207	1-766-866-21	CONNECTOR, FFC/FPC 6P			
CN5208	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P			
CN5209	1-766-336-21	CONNECTOR, FFC/FPC 6P			
CN5210	1-794-376-21	PIN, CONNECTOR 4P			
		< DIODE >			
D5203	8-719-056-85	DIODE UDZSTE-178.2B			
D5205	6-500-289-01	DIODE MAZW082H0LS0			
		< RESISTOR >			
R5201	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5223	1-218-945-11	RES-CHIP	220	5%	1/16W
		< SWITCH >			
S5203	1-771-138-82	SWITCH, KEY BOARD (RESET)			
S5207	1-762-805-21	SWITCH, PUSH (1 KEY) (PANEL CLOSE/OPEN)			

Be sure to read “Precautions upon replacing CCD imager” on page 4-9 when changing the CCD imager.

CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

Ref. No.	Part No.	Description			
	1-687-550-11	FP-626 BOARD, COMPLETE **********************			
S101	1-771-039-31	SWITCH, PUSH (PANEL REVERSE)			

Ref. No.	Part No.	Description			
	A-7013-551-A	JK-242 BOARD, COMPLETE **********************			
		< CONNECTOR >			
CN5301	1-794-962-11	CONNECTOR, SQUARE TYPE(USB 5P) (USB)			
CN5302	1-794-276-11	CONNECTOR, SQUARE TYPE 4P (DV)			
CN5303	1-691-380-21	CONNECTOR, FFC/FPC 16P			
		< DIODE >			
D5302	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D5304	8-719-078-02	DIODE 1SS357(T3SONY1)			
		< FERRITE BEAD >			
FB5301	1-500-444-11	FERRITE	0uH		
FB5302	1-500-444-11	FERRITE	0uH		
		< JACK >			
J5301	1-778-040-11	JACK, SMALL TYPE (AUDIO/VIDEO)			
		< LINE FILTER >			
LF5301	1-419-983-21	INDUCTOR	0uH		
		< RESISTOR >			
R5304	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5305	1-218-979-11	RES-CHIP	150K	5%	1/16W
R5306	1-216-864-11	METAL CHIP	0	5%	1/16W
		< VARISTOR >			
VD5301	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5302	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5303	1-803-974-21	VARISTOR, CHIP	(1608)		

Ref. No.	Part No.	Description			
	A-7013-525-A	LB-085 BOARD, COMPLETE **********************			
		< CAPACITOR >			
C5601	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5602	1-164-505-11	CERAMIC CHIP	2.2uF		16V
		< CONNECTOR >			
CN5601	1-779-334-11	CONNECTOR, FFC/FPC 20P			
CN5602	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P			
		< DIODE >			
D5602	6-500-375-01	DIODE NSCW455T-TC9			
		< IC >			
IC5601	8-759-581-11	IC NJM2125F(TE2)			

Ref. No.	Part No.	Description			
		< TRANSISTOR >			
Q5602	8-759-054-48	TRANSISTOR	UP04601008S0		
		< RESISTOR >			
R5603	1-208-941-11	METAL CHIP	180K	0.5%	1/16W
R5604	1-208-719-11	METAL CHIP	33K	0.5%	1/16W
R5605	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R5606	1-216-839-11	METAL CHIP	33K	5%	1/16W
R5607	1-211-983-11	METAL CHIP	39	0.5%	1/10W

	A-7013-530-A	MA-421 BOARD, COMPLETE			
		**********************			
		< CAPACITOR >			
C5404	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C5501	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C5502	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5503	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C5504	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5505	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5506	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5510	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5511	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5512	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5513	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5514	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5516	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5517	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5519	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5520	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5521	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5523	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5528	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C5529	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C5532	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C5535	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C5537	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
		< CONNECTOR >			
CN5401	1-778-507-21	PIN, CONNECTOR (PC BOARD) 4P			
CN5402	1-815-235-11	CONNECTOR, FFC/FPC (ZIF) 37P			
		< DIODE >			
D5401	6-500-506-01	DIODE	TLRMV1021(T15SOY,F)		
D5403	6-500-289-01	DIODE	MAZW082H0LS0		
D5404	8-719-073-01	DIODE	MA111-(K8).S0		
D5405	6-500-512-01	DIODE	CL-330IRS-X-TU		
D5407	6-500-506-01	DIODE	TLRMV1021(T15SOY,F)		
D5408	8-719-056-85	DIODE	UDZSTE-178.2B		
D5409	8-719-056-85	DIODE	UDZSTE-178.2B		
D5410	8-719-056-85	DIODE	UDZSTE-178.2B		
		< FERRITE BEAD >			
FB5401	1-469-179-21	FERRITE	0uH		
FB5402	1-469-179-21	FERRITE	0uH		
FB5403	1-469-179-21	FERRITE	0uH		
FB5404	1-469-179-21	FERRITE	0uH		
FB5405	1-500-444-11	FERRITE	0uH		

Ref. No.	Part No.	Description			
FB5406	1-500-444-11	FERRITE	0uH		
FB5407	1-500-444-11	FERRITE	0uH		
FB5408	1-500-444-11	FERRITE	0uH		
FB5409	1-500-444-11	FERRITE	0uH		
FB5410	1-500-444-11	FERRITE	0uH		
FB5411	1-500-444-11	FERRITE	0uH		
		< IC >			
IC5401	6-600-047-01	IC	RS-670		
IC5501	8-759-679-11	IC	BH7870AKV-E2		
		< JACK >			
J5401	1-691-737-41	JACK (SMALL TYPE) (MIC(PLUG IN POWER)			
J5402	1-793-995-11	JACK, SUPER SMALL TYPE (◐ LANC)			
J5404	1-694-688-11	TERMINAL, S (S VIDEO)			
J5405	1-569-950-41	JACK (SMALL TYPE) (🎧 (HEADPHONES))			
		< COIL >			
L5501	1-469-528-91	INDUCTOR	100uH		
		< RESISTOR >			
R5401	1-216-864-11	METAL CHIP	0	5%	1/16W
R5402	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R5403	1-216-864-11	METAL CHIP	0	5%	1/16W
R5405	1-216-805-11	METAL CHIP	47	5%	1/16W
R5406	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R5407	1-216-864-11	METAL CHIP	0	5%	1/16W
R5408	1-216-864-11	METAL CHIP	0	5%	1/16W
R5501	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5502	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R5503	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5504	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5505	1-218-990-11	SHORT CHIP	0		
R5506	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5507	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5508	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R5509	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R5510	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5511	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5515	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5517	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5520	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R5521	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R5522	1-218-990-11	SHORT CHIP	0		
R5524	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5525	1-218-966-11	RES-CHIP	12K	5%	1/16W
R5527	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R5530	1-218-990-11	SHORT CHIP	0		
R5531	1-218-990-11	SHORT CHIP	0		
R5532	1-218-990-11	SHORT CHIP	0		
R5533	1-218-990-11	SHORT CHIP	0		
R5534	1-218-990-11	SHORT CHIP	0		
		< SENSOR >			
SE5401	1-476-807-31	SENSOR, ANGULAR VELOCITY (YAW)			
SE5402	1-476-807-41	SENSOR, ANGULAR VELOCITY (PITCH)			

MA-421 **PD-188**

Ref. No.	Part No.	Description			
		< VARISTOR >			
VD5401	1-801-862-11	VARISTOR, CHIP	(1608)		
VD5402	1-801-862-11	VARISTOR, CHIP	(1608)		
VD5403	1-801-923-11	VARISTOR, CHIP	(1608)		
VD5407	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5408	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5409	1-801-862-11	VARISTOR, CHIP	(1608)		
VD5410	1-801-862-11	VARISTOR, CHIP	(1608)		

Ref. No.	Part No.	Description			
	A-7013-528-A	PD-188 BOARD, COMPLETE ************************			
		< CAPACITOR >			
C6001	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C6002	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C6003	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6004	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6005	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6007	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6008	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6009	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C6010	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6011	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C6012	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6013	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C6014	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C6015	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C6016	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C6017	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C6018	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C6019	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C6022	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6023	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C6024	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C6101	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C6103	1-164-657-11	CERAMIC CHIP	0.015uF	10%	50V
C6104	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
⚠C6105	1-100-371-11	CERAMIC CHIP	12PF	5%	3.15KV
		< CONNECTOR >			
CN6001	1-815-031-11	CONNECTOR, FFC/FPC (ZIF) 24P			
CN6101	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
CN6201	1-794-997-11	PIN, CONNECTOR 20P			
CN6202	1-794-376-21	PIN, CONNECTOR 4P			
CN6203	1-691-344-11	CONNECTOR, FFC/FPC (ZIF) 6P			
		< DIODE >			
D6001	8-719-084-47	DIODE 1SV290(TPL3)			
D6003	8-719-050-42	DIODE RD3.3UM-T1B			
D6103	8-719-073-01	DIODE MA111-(K8).S0			
D6201	8-719-056-85	DIODE UDZSTE-178.2B			
		< FERRITE BEAD >			
FB6001	1-414-760-21	FERRITE	0uH		
FB6002	1-414-760-21	FERRITE	0uH		

Ref. No.	Part No.	Description			
		< IC >			
IC6001	8-752-109-08	IC CXA3289BR-T4			
IC6002	8-752-407-33	IC CXD3512R-T4			
IC6101	8-759-564-49	IC TC7W53FU(TE12R)			
IC6102	8-759-075-70	IC TA75S393F-TE85R			
		< COIL >			
L6001	1-469-525-91	INDUCTOR	10uH		
L6002	1-412-949-21	INDUCTOR	6.8uH		
L6101	1-428-878-11	INDUCTOR	82uH		
		< TRANSISTOR >			
Q6001	8-759-054-48	TRANSISTOR	UP04601008S0		
Q6002	8-759-054-48	TRANSISTOR	UP04601008S0		
Q6003	6-550-234-01	TRANSISTOR	UNR32A300LS0		
Q6004	6-550-232-01	TRANSISTOR	2SA2029T2LQ/R		
Q6005	6-550-232-01	TRANSISTOR	2SA2029T2LQ/R		
Q6101	6-550-234-01	TRANSISTOR	UNR32A300LS0		
Q6102	6-550-065-01	TRANSISTOR	CPH5504-TL-E		
		< RESISTOR >			
R6001	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R6002	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6003	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6004	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6006	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R6007	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6008	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6009	1-218-975-11	RES-CHIP	68K	5%	1/16W
R6010	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6011	1-218-975-11	RES-CHIP	68K	5%	1/16W
R6012	1-218-989-11	RES-CHIP	1M	5%	1/16W
R6013	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6014	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6015	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6016	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6017	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6018	1-218-966-11	RES-CHIP	12K	5%	1/16W
R6019	1-218-989-11	RES-CHIP	1M	5%	1/16W
R6020	1-218-975-11	RES-CHIP	68K	5%	1/16W
R6021	1-218-979-11	RES-CHIP	150K	5%	1/16W
R6022	1-208-957-11	RES-CHIP	820K	5%	1/16W
R6023	1-218-990-11	SHORT CHIP	0		
R6103	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6104	1-218-980-11	RES-CHIP	180K	5%	1/16W
R6105	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6106	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R6107	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6108	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6110	1-218-949-11	RES-CHIP	470	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB6001	1-234-372-21	RES, NETWORK 100X4		(1005)	

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note :** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			
		< TRANSFORMER >			
⚠T6101	1-435-786-31	TRANSFORMER, INVERTER			

	A-7013-554-A	VA-118 BOARD, COMPLETE			
		**********************			
		< CAPACITOR >			
C4001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4003	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4005	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4109	1-119-749-11	TANTAL. CHIP	33uF	20%	4V
C4110	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4111	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C4112	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C4113	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C4114	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4115	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4116	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C4117	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4201	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4203	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4204	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4205	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4206	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4207	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C4208	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4209	1-113-986-11	TANTAL. CHIP	2.2uF	20%	25V
C4210	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4211	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4212	1-164-876-11	CERAMIC CHIP	120PF	5%	50V
C4213	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4214	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4215	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4216	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V
C4217	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C4301	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4302	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4303	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C4304	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C4305	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4306	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4307	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4308	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4309	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4310	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4311	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4312	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4314	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4501	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4502	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4503	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4504	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C4505	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4506	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4507	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4508	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V

Ref. No.	Part No.	Description			
C4509	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4510	1-164-934-11	CERAMIC CHIP	330PF	10%	50V
C4511	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4512	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C4513	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4514	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4515	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C4516	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4517	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4518	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4520	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C4521	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4522	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4523	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4526	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4527	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C4528	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C4529	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4530	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4531	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4532	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4533	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4535	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4536	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4537	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C4538	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C4539	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C4540	1-125-827-91	CERAMIC CHIP	1uF	10%	25V
C4541	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4542	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4543	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4544	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4545	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4546	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4547	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4548	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C4549	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4550	1-113-988-11	TANTAL. CHIP	68uF	20%	4V
C4551	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4553	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C4554	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4555	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C4557	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C4558	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4559	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C4560	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4562	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C4601	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4602	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4603	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4604	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C4605	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C4606	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C4607	1-109-982-11	CERAMIC CHIP	1uF	10%	10V

Note :	**Note :**
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Ref. No.	Part No.	Description	
		< CONNECTOR >	
CN4001	1-691-374-11	CONNECTOR, FFC/FPC 10P	
CN4002	1-766-613-21	CONNECTOR, FFC/FPC 36P	
CN4003	1-794-998-31	PIN, CONNECTOR 20P	
CN4004	1-774-603-21	CONNECTOR, BOARD TO BOARD 100P	
CN4005	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P	
CN4201	1-766-350-21	CONNECTOR, FFC/FPC 20P	
* CN4602	1-580-056-21	PIN, CONNECTOR (SMD) 3P	
* CN4603	1-580-056-21	PIN, CONNECTOR (SMD) 3P	
		< DIODE >	
D4001	6-500-289-01	DIODE	MAZW082H0LS0
D4002	6-500-289-01	DIODE	MAZW082H0LS0
D4101	8-719-073-01	DIODE	MA111-(K8).S0
D4102	8-719-056-85	DIODE	UDZSTE-178.2B
D4103	8-719-056-85	DIODE	UDZSTE-178.2B
D4201	8-719-084-47	DIODE	1SV290(TPL3)
D4502	8-719-421-27	DIODE	MA728-(K8).S0
D4503	6-500-314-01	DIODE	DAN222MT2L
D4504	8-719-074-08	DIODE	MA4ZD03001S0
D4507	8-719-074-08	DIODE	MA4ZD03001S0
D4601	6-500-289-01	DIODE	MAZW082H0LS0
D4602	8-719-081-19	DIODE	1SS383(T5RSONY1)
D4603	8-719-056-23	DIODE	1SS387-TPL3
D4604	8-719-056-23	DIODE	1SS387-TPL3
		< FUSE >	
⚠F4601	1-576-406-21	FUSE 1.4A 32V	
⚠F4602	1-576-406-21	FUSE 1.4A 32V	
⚠F4603	1-576-406-21	FUSE 1.4A 32V (TRV22:US/TRV22E:AEP1)	
⚠F4603	1-576-406-21	FUSE 1.4A 32V	
⚠F4604	1-576-406-21	FUSE 1.4A 32V	
⚠F4605	1-576-406-21	FUSE 1.4A 32V	
		< FERRITE BEAD >	
FB4201	1-469-676-22	FERRITE	0uH
FB4202	1-500-329-21	FERRITE	0uH
		< IC >	
IC4101	6-803-026-01	IC	MB89097PFV-G-155-BND-ER-E1
IC4201	8-752-109-08	IC	CXA3289BR-T4
IC4202	8-752-405-57	IC	CXD3501AR-T4
IC4301	8-759-489-19	IC	uPC6756GR-8JG-E2
IC4301	8-759-489-19	IC	NJM3230V(TE2)
IC4502	6-703-429-01	IC	MB44A120APFV-G-BND-ERE1
IC4504	6-703-227-01	IC	TK11131CSCL-G
		< COIL >	
L4201	1-469-525-91	INDUCTOR	10uH
L4202	1-469-891-21	INDUCTOR	6.8uH
L4301	1-469-570-21	INDUCTOR	10uH
L4501	1-416-670-11	INDUCTOR	33uH
L4502	1-416-669-11	INDUCTOR	22uH
L4503	1-416-669-11	INDUCTOR	22uH
L4504	1-416-669-11	INDUCTOR	22uH
L4505	1-416-670-11	INDUCTOR	33uH
L4506	1-416-669-11	INDUCTOR	22uH
L4507	1-416-670-11	INDUCTOR	33uH
L4508	1-469-524-91	INDUCTOR	4.7uH
L4509	1-469-524-91	INDUCTOR	4.7uH
L4510	1-469-757-21	INDUCTOR	10uH
L4511	1-469-524-91	INDUCTOR	4.7uH
L4512	1-469-524-91	INDUCTOR	4.7uH
L4513	1-469-524-91	INDUCTOR	4.7uH
L4514	1-469-524-91	INDUCTOR	4.7uH
L4515	1-469-526-91	INDUCTOR	22uH
L4516	1-469-524-91	INDUCTOR	4.7uH
L4517	1-469-524-91	INDUCTOR	4.7uH
L4518	1-469-524-91	INDUCTOR	4.7uH
L4519	1-469-524-91	INDUCTOR	4.7uH
L4520	1-469-524-91	INDUCTOR	4.7uH
L4521	1-469-524-91	INDUCTOR	4.7uH
L4601	1-412-056-11	INDUCTOR	4.7uH
		< LINE FILTER >	
LF4602	1-456-391-21	INDUCTOR	0uH
		< TRANSISTOR >	
Q4001	6-550-102-01	TRANSISTOR	2SC5663T2L
Q4002	6-550-235-01	TRANSISTOR	UNR32A500LS0
Q4003	6-550-238-01	TRANSISTOR	UNR31A100LS0
Q4004	8-729-053-57	TRANSISTOR	RN1902FE(TPLR3)
Q4005	8-729-054-44	TRANSISTOR	RN2902FE(TPLR3)
Q4101	8-729-041-43	TRANSISTOR	HN1L02FU(TE85R)
Q4504	6-550-405-01	TRANSISTOR	CPH5815-TL-E
Q4505	6-550-405-01	TRANSISTOR	CPH5815-TL-E
Q4506	6-550-405-01	TRANSISTOR	CPH5815-TL-E
Q4507	6-550-405-01	TRANSISTOR	CPH5815-TL-E
Q4508	6-550-405-01	TRANSISTOR	CPH5815-TL-E
Q4509	6-550-405-01	TRANSISTOR	CPH5815-TL-E
Q4510	6-550-560-01	TRANSISTOR	CPH5819-TL-E
Q4513	6-550-237-01	TRANSISTOR	2SC5658T2LQ/R
Q4514	8-729-101-07	TRANSISTOR	2SB798-T1-DLDK
Q4515	6-550-237-01	TRANSISTOR	2SC584600LS0
Q4516	6-550-232-01	TRANSISTOR	2SA207800LS0
Q4517	6-550-232-01	TRANSISTOR	2SA207800LS0
Q4518	8-759-054-50	TRANSISTOR	UP04501008S0
Q4519	8-759-054-50	TRANSISTOR	UP04501008S0
Q4520	6-550-237-01	TRANSISTOR	2SC584600LS0
Q4521	8-729-054-49	TRANSISTOR	UP04401008S0
Q4524	8-729-216-22	TRANSISTOR	2SA1162-YG-TE85L
Q4525	8-759-054-50	TRANSISTOR	UP04501008S0
Q4526	6-550-406-01	TRANSISTOR	MCH3335-S-TL-E
Q4601	8-729-047-68	TRANSISTOR	SSM3K03FE(TPL3)
Q4602	6-550-404-01	TRANSISTOR	UPA1858GR-9JG-E2-A
Q4603	8-729-101-07	TRANSISTOR	2SB798-T1-DLDK
Q4604	6-550-234-01	TRANSISTOR	UNR32A300LS0
Q4608	8-729-056-19	TRANSISTOR	TPC6101(TE85R)
Q4610	6-550-234-01	TRANSISTOR	UNR32A300LS0

Note :	**Note :**
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Ref. No.	Part No.	Description			
		< RESISTOR >			
R4002	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4004	1-216-009-91	RES-CHIP	22	5%	1/10W
R4005	1-216-009-91	RES-CHIP	22	5%	1/10W
R4006	1-218-939-11	RES-CHIP	68	5%	1/16W
R4007	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R4008	1-218-990-11	SHORT CHIP	0		
R4009	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4103	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4104	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4105	1-218-990-11	SHORT CHIP	0		
R4106	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4109	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4110	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4111	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4112	1-218-989-11	METAL CHIP	1M	0.5%	1/16W
R4113	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4114	1-219-570-11	METAL CHIP	10M	5%	1/10W
R4115	1-218-985-11	METAL CHIP	470K	0.5%	1/16W
R4116	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4117	1-218-990-11	SHORT CHIP	0		
R4118	1-216-857-11	METAL CHIP	1M	5%	1/16W
R4119	1-218-949-11	RES-CHIP	470	5%	1/16W
R4120	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4121	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4122	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4123	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4124	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4201	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4202	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4204	1-218-990-11	SHORT CHIP	0		
R4206	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R4207	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4208	1-218-975-11	RES-CHIP	68K	5%	1/16W
R4209	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4210	1-218-975-11	RES-CHIP	68K	5%	1/16W
R4211	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4212	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4213	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4214	1-218-989-11	METAL CHIP	1M	0.5%	1/16W
R4215	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4301	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4302	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4303	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4304	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4501	1-220-200-81	RES-CHIP	30K	5%	1/16W
R4502	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4503	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4504	1-218-990-11	SHORT CHIP	0		
R4505	1-218-990-11	SHORT CHIP	0		
R4506	1-218-990-11	SHORT CHIP	0		
R4507	1-218-990-11	SHORT CHIP	0		
R4508	1-218-990-11	SHORT CHIP	0		
R4509	1-218-990-11	SHORT CHIP	0		
R4510	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4511	1-218-970-11	RES-CHIP	27K	5%	1/16W
R4512	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4513	1-218-971-11	RES-CHIP	33K	5%	1/16W
R4514	1-218-972-11	RES-CHIP	39K	5%	1/16W
R4515	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4516	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4517	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R4518	1-208-910-11	RES-CHIP	9.1K	5%	1/16W
R4519	1-218-990-11	SHORT CHIP	0		
R4520	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4522	1-218-990-11	SHORT CHIP	0		
R4523	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4524	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R4525	1-218-990-11	SHORT CHIP	0		
R4526	1-218-935-11	RES-CHIP	33	5%	1/16W
R4537	1-218-966-11	RES-CHIP	12K	5%	1/16W
R4538	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4539	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4540	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4541	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4543	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4545	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4546	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4547	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4549	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4550	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R4551	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4552	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4553	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4554	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R4555	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4556	1-218-967-11	RES-CHIP	15K	5%	1/16W
R4557	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R4561	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4562	1-218-949-11	RES-CHIP	470	5%	1/16W
R4563	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R4564	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R4567	1-218-990-11	SHORT CHIP	0		
R4601	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4604	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4605	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4607	1-216-797-11	METAL CHIP	10	5%	1/16W
R4608	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R4609	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R4611	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4614	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4615	1-218-965-11	RES-CHIP	10K	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB4101	1-234-378-21	RES, NETWORK 10KX4		(1005)	
RB4104	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4105	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4106	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4107	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4108	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4109	1-234-381-21	RES, NETWORK 100KX4		(1005)	

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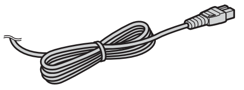
Ref. No.	Part No.	Description	
RB4201	1-234-372-21	RES, NETWORK 100X4	(1005)
RB4301	1-234-379-21	RES, NETWORK 22KX4	(1005)
		< VIBRATOR >	
X4101	1-760-458-21	VIBRATOR, CRYSTAL (32.768KHZ)	
X4102	1-795-244-11	VIBRATOR, CERAMIC (10MHz)	

Ref. No.	Part No.	Description
	A-7078-607-A	VC-312 BOARD, COMPLETE (SERVICE) **********************

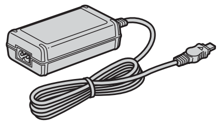
Electrical parts list of the VC-312 board are not shown.
Pages from 5-21 to 5-26 are not shown.

Checking supplied accessories.

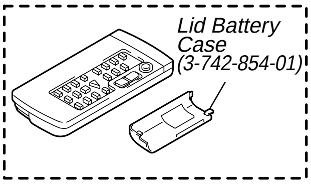
Make sure that the following accessories are supplied with your camcorder.



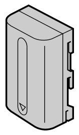
Power cord (Main lead)(1)
(AUS model)
⚠ 1-696-819-21
Power cord (Main lead)(1)
(AEP, E, EE, NE model)
⚠ 1-769-608-11
Power cord (Main lead)(1)
(CH model)
⚠ 1-782-476-11
Power cord (Main lead)(1)
(UK, HK model)
⚠ 1-783-374-11
Power cord (Main lead)(1)
(US, CND model)
⚠ 1-790-107-22
Power cord (Main lead)(1)
(JE model)
⚠ 1-790-732-11
Power cord (Main lead)(1)
(KR model)
⚠ 1-776-985-11



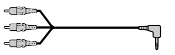
AC power adaptor (1) (AC-L15A)
(US, CND, AEP, UK, E, HK, AUS, EE, NE, KR, JE, BR model)
⚠ 1-477-533-31
AC power adaptor (1) (AC-L15A)
(CH model)
⚠ 1-477-533-41



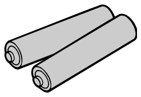
Wireless Remote Commander (1)
(RMT-814)
1-475-141-61



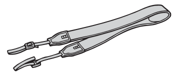
NP-FM30 battery pack (1)
(not supplied)



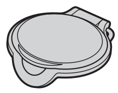
A/V connecting cable
(1.5m) (1)
1-824-097-11



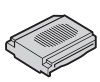
R6 (size AA) batteries for the Remote Commander (2)
(not supplied)



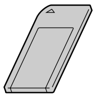
Shoulder strap (1)
3-987-015-01



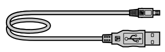
Lens cap (1)
X-3953-088-1



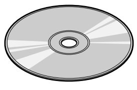
Shoe cover (1)
3-080-571-01



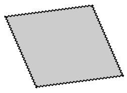
"Memory Stick" (1)
(MSA-8A)
A-7024-735-A



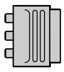
USB cable (1)
1-823-931-11



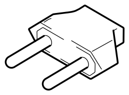
CD-ROM
(SPVD-010 USB Driver) (1)
(TRV22:E, HK, BR, JE, KR/TRV22E only)
3-078-942-01
CD-ROM
(SPVD-010(I) USB Driver) (1)
(TRV22:US,CND model)
3-078-943-01



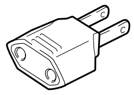
Cleaning cloth (1)
3-073-861-01



21-pin adaptor (1)
(AEP, UK, EE, NE model)
1-770-783-21



2-pin conversion adaptor (1)
(TRV22:JE/TRV22E:JE only)
1-569-007-12



2-pin conversion adaptor (1)
(TRV22:E,HK/TRV22E:E,HK only)
1-569-008-12

- Abbreviation
  CND : Canadian model
  EE : East European model
  NE : North European model
  HK : Hong Kong model
  AUS : Australian model
  CH : Chinese model
  JE : Tourist model
  KR : Korea model
  BR : Brazlian model

Other accessories

3-080-368-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH) (TRV22E:AEP, UK, AUS, CH, E, HK, JE)
3-080-368-21	MANUAL, INSTRUCTION (SPANISH/PORTUGUESE) (TRV22E:AEP)
3-080-368-31	MANUAL, INSTRUCTION (ITALIAEN/GREEK)(TRV22E:AEP)
3-080-368-41	MANUAL, INSTRUCTION (GERMAN/DUTCH)(TRV22E:AEP)
3-080-368-51	MANUAL, INSTRUCTION (SWEDISH/RUSSIAN) (TRV22E:NE, E, JE)
3-080-368-61	MANUAL, INSTRUCTION (DANISH/FINNISH)(TRV22E:NE)
3-080-368-71	MANUAL, INSTRUCTION (ARABIC/PERSIAN)(TRV22E:E)
3-080-368-81	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV22E:HK)
3-080-368-91	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE) (TRV22E:E, CH, JE)
3-080-369-11	MANUAL, INSTRUCTION (ENGLISH) (TRV22:US, CND, E, HK, JE)
3-080-369-21	MANUAL, INSTRUCTION (FRENCH) (TRV22:CND)
3-080-369-31	MANUAL, INSTRUCTION (SPANISH/PORTUGUESE) (TRV22:E, JE)
3-080-369-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV22:E, HK)
3-080-369-51	MANUAL, INSTRUCTION (KOREAN) (TRV22:JE, KR)
3-080-369-61	MANUAL, INSTRUCTION (ARABIC) (TRV22:E)

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2003.02	Official Release	—	—

DCR-TRV22/TRV22E
RMT-814

Ver 1.0 2003. 02
Revision History

SECTION 6 ADJUSTMENTS

ADJ

Link

- Before starting adjustment
  - Adjusting items when replacing main parts and boards
- CAMERA SECTION ADJUSTMENT
  - PREPARATIONS BEFORE ADJUSTMENT
  - INITIALIZATION OF 8, A, B, C, D, E, F, 18, 1B, 1C, 1F PAGE DATA
  - CAMERA SYSTEM ADJUSTMENTS
  - COLOR ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENT
  - LCD SYSTEM ADJUSTMENT
- MECHANISM SECTION ADJUSTMENT
  - HOW TO ENTER RECORD MODE WITHOUT CASSETTE
  - HOW TO ENTER PLAYBACK MODE WITHOUT CASSETTE
  - TAPE PATH ADJUSTMENT
- VIDEO SECTION ADJUSTMENT
  - PREPARATIONS BEFORE ADJUSTMENTS
  - SYSTEM CONTROL SYSTEM ADJUSTMENT
  - SERVO AND RF SYSTEM ADJUSTMENT
  - VIDEO SYSTEM ADJUSTMENTS
  - AUDIO SYSTEM ADJUSTMENTS
- SERVICE MODE
  - ADJUSTMENT REMOTE COMMANDER
  - DATA PROCESS
  - SERVICE MODE

Contents of LEVEL 2 and LEVEL 3 Service Manual

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1. SERVICE NOTE	○	×
2. DISASSEMBLY	○	×
3. BLOCK DIAGRAMS	OVERALL POWER	×
4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS	CD-430, LB-085, VA-118, CK-129, PD-188, JK-242, MA-421, MA-421 BOARD, CONTROL SWITCH BLOCK (FK-CX4000), FP-467, FP-468, FP-228, FP-626 FLEXIBLE	VC-312 BOARD
5. REPAIR PARTS LIST	EXPLODED VIEWS	×
	ELECTRICAL PARTS	○ (VC-312 BOARD)

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9-876-222-51

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* Optical axis frame is shown on page 6-63.
Color reproduction frame is shown on page 6-64.

SECTION 6
ADJUSTMENTS

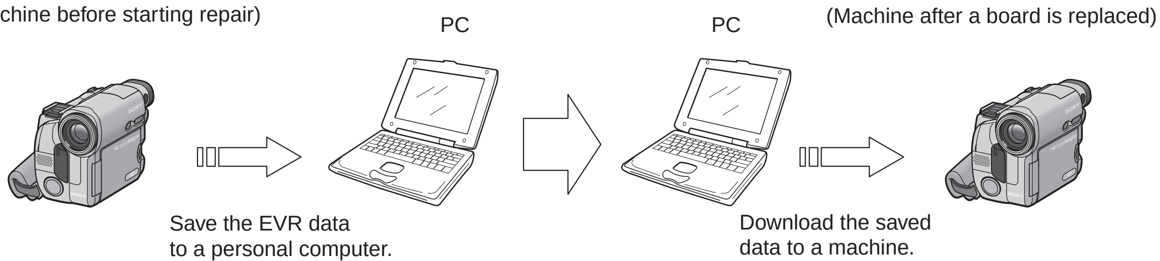
1. Before starting adjustment

EVR Data Re-writing Procedure When Replacing Board

The data that is stored in the repair board, is not necessarily correct.
Perform either procedure 1 or procedure 2 or procedure 3 when replacing board.

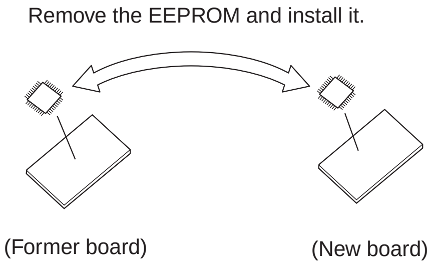
Procedure 1

Save the EVR data of the machine in which a board is going to be replaced. Download the saved data after a board is replaced.


(Machine before starting repair)
PC
PC
(Machine after a board is replaced)
Save the EVR data
to a personal computer.
Download the saved
data to a machine.

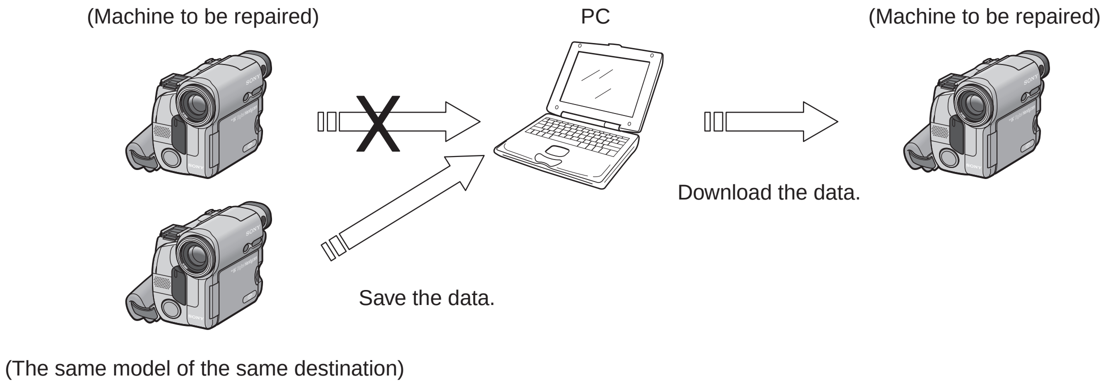
Procedure 2

Remove the EEPROM from the board of the machine that is going to be repaired. Install the removed EEPROM to the replaced board.


Remove the EEPROM and install it.
(Former board)
(New board)

Procedure 3

When the data cannot be saved due to defective EEPROM, or when the EEPROM cannot be removed or installed, save the data from the same model of the same destination, and download it.


(Machine to be repaired)
PC
(Machine to be repaired)
Download the data.
Save the data.
(The same model of the same destination)

After the EVR data is saved and downloaded, check the respective items of the EVR data.
(Refer to page 6-3 for the items to be checked.)

1-1. Adjusting items when replacing main parts and boards.

• Adjusting items when replacing main parts

When replacing main parts, adjust the items indicated by ● in the following table.

Note1: When replacing the drum assy. or the mechanism deck, reset the data of page: 7, address: A7 to A9 to “00”. (Refer to “Record of Use check” of “6-4. SERVICE MODE”)

Adjustment Section	Adjustment	Replaced parts																				
		Block replacement							Parts replacement													
		Lens device	Mechanism deck Note1	LCD block LCD901 (LCD panel)	LCD block ND901 (Fluorescent tube)	EVFblock LCD903 (LCD panel)	Mechanism deck M901 (Drum assy) Note1	MD block	CD-430 board IC5001 (CCD imager)	LB-085 board D5602 (Backlight (EVF))	MA-421 boardSE5401/5402 (YAW/PITCH sensor)	PD-188 board IC6001 (RGB driver (LCD))	PD-188 board IC6002 (Timing generator (LCD))	VA-118 board IC4201 (RGB driver (EVF))	VA-118 board IC4202 (Timing generator (EVF))	VC-312 board IC1401, X1401 (Timing generator)	VC-312 board IC1402 (S/H,A/D conv.)	VC-312 board IC2101 (Camera DV signal process, etc.)	VC-312 board IC2301 (DV signal process,RF signal process)	VC-312 board IC1801 (REC/PB AMP)	VC-312 board IC1901 (Video IN/OUT)	VC-312 board IC1701 (EVR)
Initialization of 8,A,B,C,D,E,F, 18,1B,1C,1F page data	Initialization of A, D page data																					
	Initialization of B, 1B page data																					
	Initialization of 8, C, 18, 1C page data																					
	Initialization of E, F, 1F page data																					
Camera	36MHz origin oscillation adj.															●						●
	HALL adj.	●																				
	Flange back adj.	●							●													
	Optical axis adj.	●							●													
	Mechanical shutter adj.	●																				
	Color reproduction adj.								●								●					
	MAX GAIN adj.								●								●					
	LV standard data input								●								●					
	AWB standard data input								●								●					
	Auto white balance adj.								●								●					
	Steady shot check										●											
Color EVF	VCO adj.													●	●							
	RGB AMP adj.													●								
	Contrast adj.													●				●				
	White balance adj.					●				●				●								
LCD	VCO adj.											●	●									
	PSIG GRAY adj.											●										
	RGB AMP adj.											●										
	Black limit adj.											●										
	Contrast adj.											●						●				
	Center level adj.											●										
	V COM adj.											●										
	White balance adj.			●	●							●										
Mechanism	Tape path adj.		●				●	●														
System control	Touch panel adj.			●																		
	Serial No. input																					
Servo, RF	CAP FG duty adj.		●					●														
	Switching position adj.		●				●		●					●								
	Error rate check		●				●	●											●	●		
Video	S VIDEO OUT Y level adj.																	●			●	
	S VIDEO OUT chroma level adj.																	●			●	

Table. 6-1-1(1).

• Adjusting items when replacing a board or EEPROM

When replacing a board or EEPROM, adjust the items indicated by ● in the following table.

Adjustment Section	Adjustment	Board replacement					EEPROM replacement			
		LB-085 board (COMPLETE)	MA-421 board (COMPLETE)	PD-188 board (COMPLETE)	VA-118 board (COMPLETE)	VC-312 board (COMPLETE)	VC-312 board IC2602 (EEPROM)	VC-312 board IC2701 (EEPROM)	VC-312 board IC2803 (Flash memory)	Supporting
Initialization of 8,A,B,C,D,E,F, 18,1B,1C,1F page data	Initialization of A, D page data					●		●		
	Initialization of B, 1B page data					●		●		
	Initialization of 8, C, 18, 1C page data					●	●			
	Initialization of E, F, 1F page data					●	●			
Camera	36MHz origin oscillation adj.					●	●			
	HALL adj.					●	●			●
	Flange back adj.					●	●			●
	Optical axis adj.					●	●			
	Mechanical shutter adj.					●	●			●
	Color reproduction adj.					●	●			●
	MAX GAIN adj.					●	●			●
	LV standard data input					●	●			●
	AWB standard data input					●	●			●
	Auto white balance adj.					●	●			●
	Steady shot check		●			●	●			●
Color EVF	VCO adj.				●	●	●			
	RGB AMP adj.				●	●	●			●
	Contrast adj.				●	●	●			●
	White balance adj.	●			●	●	●			
LCD	VCO adj.			●		●	●			
	PSIG GRAY adj.			●		●	●			
	RGB AMP adj.			●		●	●			
	Black limit adj.			●		●	●			
	Contrast adj.			●		●	●			
	Center level adj.			●		●	●			
	V COM adj.			●		●	●			
	White balance adj.			●		●	●			
Mechanism	Tape path adj.									
System control	Touch panel adj.					●		●		
	Serial No. input					●	●			
Servo, RF	CAP FG duty adj.					●	●			●
	Switching position adj.					●	●			●
	Error rate check					●	●			●
Video	S VIDEO OUT Y level adj.				●	●	●			
	S VIDEO OUT chroma level adj.				●	●	●			

Table. 6-1-1(2).

6-1. CAMERA SECTION ADJUSTMENT

1-1. PREPARATIONS BEFORE ADJUSTMENT (CAMERA SECTION)

1-1-1. List of Service Tools

- Oscilloscope
- Regulated power supply
- Color monitor
- Digital voltmeter
- Vectorscope

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0	J-6080-808-A	White balance check
	ND filter 0.4	J-6080-806-A	White balance check
	ND filter 0.1	J-6080-807-A	White balance check
J-3	Pattern box PTB-450	J-6082-200-A	
J-4	Color chart for pattern box	J-6020-250-A	
J-5	Adjustment remote commander (RM-95 upgraded) (Note)	J-6082-053-B	
J-6	Siemens star chart	J-6080-875-A	For checking the flange back
J-7	Clear chart for pattern box	J-6080-621-A	
J-8	CPC-7 jig	J-6082-382-A	For adjusting the color viewfinder For adjusting the LCD block For adjusting the tape path
J-9	Extension cable (100P, 0.5mm)	J-6082-352-A	For extension between the VA-118 board (CN4004) and the VC-312 board (CN1002)
J-10	Mini pattern box	J-6082-353-B	For adjusting the flange back
J-11	Camera table	J-6082-384-A	For adjusting the flange back

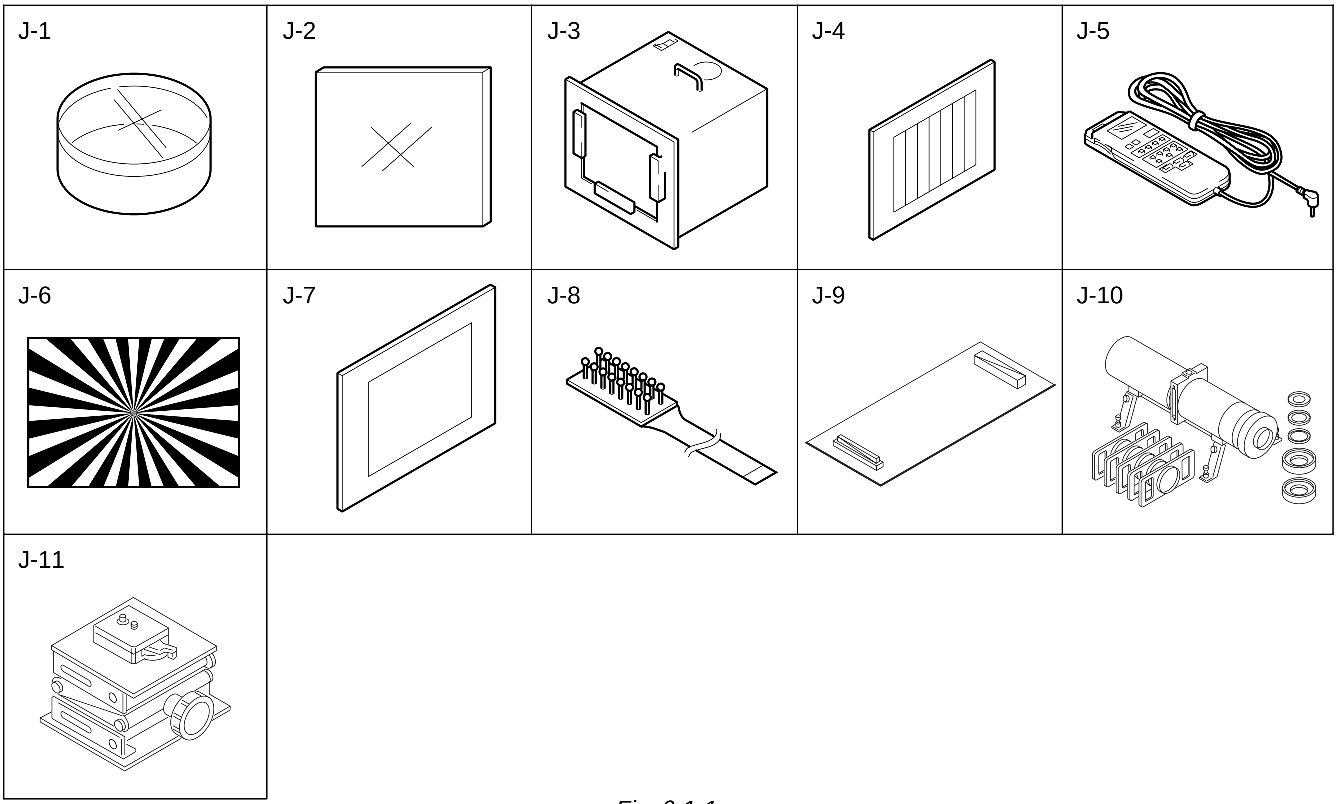


Fig. 6-1-1.

1-1-2. Preparations

Note1: For details of how remove the cabinet and boards, refer to "2. DISASSEMBLY".

Note2: When performing only the adjustments, the lens block and boards need not be disassembled.

Note3: Before performing the adjustments, check the data of page: 0, address: 10 is "00". If not, set data: 00 to this address.

1) Connect the equipment for adjustments according to Fig. 6-1-3.

Note4: As removing the cabinet (R) assembly (removing CN4005 of the VA-118 board) means removing the lithium 3V power supply (BT5201 on the CK-129 board), data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. But the self-diagnosis data and the data on history of use (total drum rotation time etc.) will be kept even if the lithium 3V power supply is removed. (Refer to "5-4.Service Mode" for the self-diagnosis data and the data on history of use.)

Note5: Setting the "Forced Camera Power ON" Mode
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 01, and press the PAUSE button.

The above procedure will enable the camera power to be turned on with the control switch block (FK-CX4000) removed. After completing adjustments, be sure to exit the "Forced Camera Power ON Mode".

Note6: Exiting the "Forced Camera Power ON" Mode
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 00, and press the PAUSE button.
3) Select page: 0, address: 01, and set data: 00.

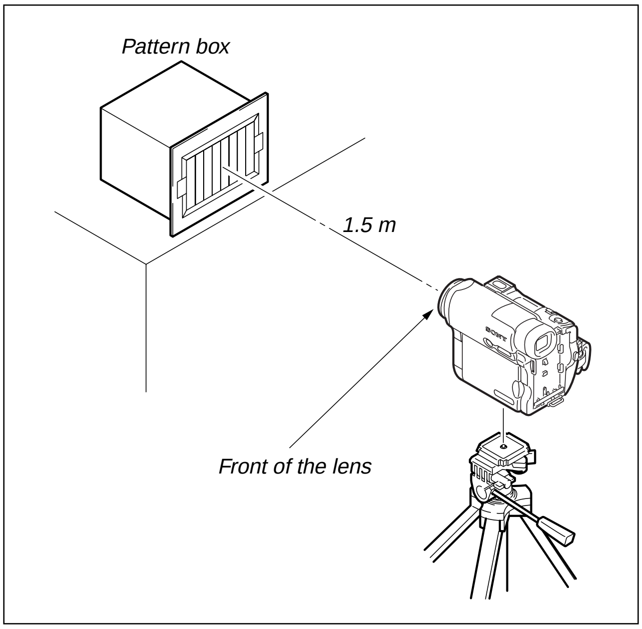


Fig. 6-1-2.

[CONNECTION OF EQUIPMENT]

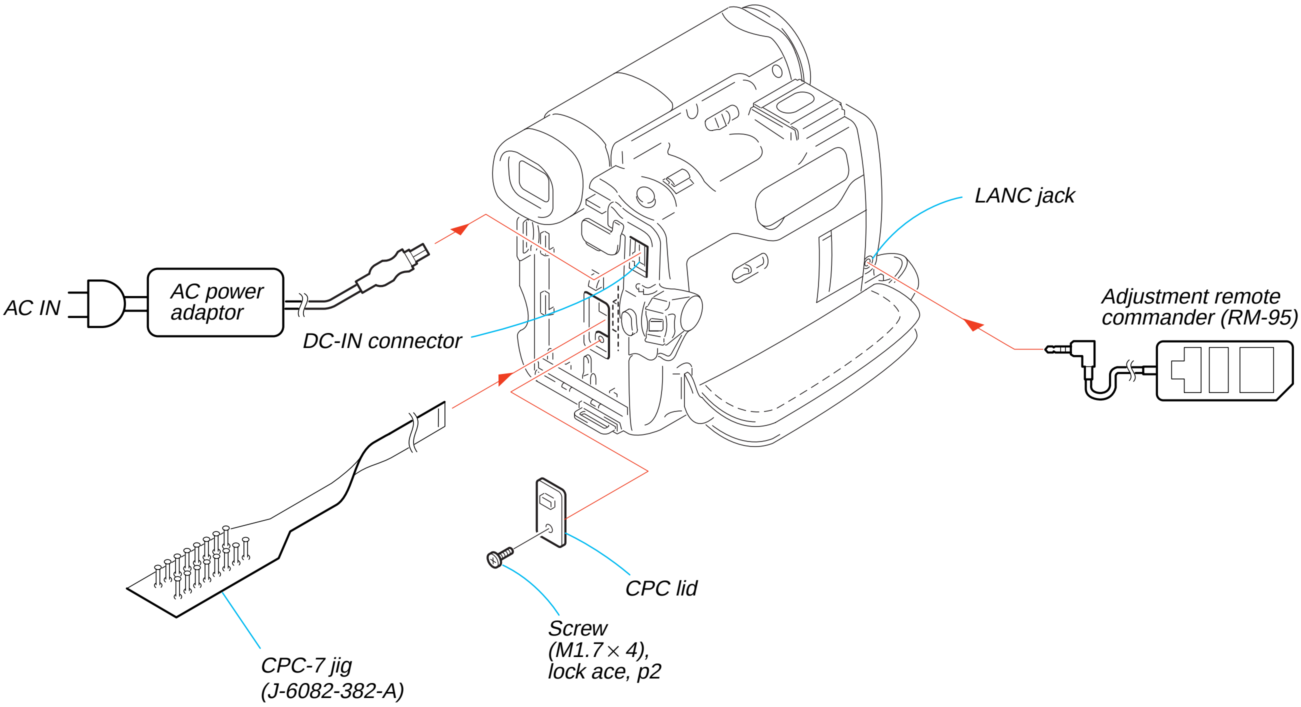

LANC jack
AC IN
AC power adaptor
DC-IN connector
Adjustment remote commander (RM-95)
CPC lid
Screw (M1.7 × 4), lock ace, p2
CPC-7 jig (J-6082-382-A)

Fig. 6-1-3.

1-1-3. Precaution

1. Setting the Switch

Unless otherwise specified, set the switches as follows and perform adjustments without loading cassette.

1. POWER switch (FK-CX4000 block) .... CAMERA
2. NIGHT SHOT switch (Lens block) .... OFF
3. BACK LIGHT switch (CF-CX4000 block) .... OFF
4. FUNCTION settings (Touch panel)
    - FOCUS (Page1) .... MANUAL
    - SPOT METER (Page1) .... AUTO
    - MANUAL SET of the MENU settings (Page1)
        - PROGRAM AE .... AUTO
        - PICTURE EFFECT .... OFF
        - WHITE BALANCE .... AUTO
    - CAMERA SET of the MENU settings (Page1)
        - DIGITAL ZOOM .... OFF
        - 16:9 WIDE .... OFF
        - STEADY SHOT .... OFF
    - SETUP MENU of the MENU settings (Page1)
        - DEMO MODE .... OFF
    - EXPOSURE (Page2) .... OFF
    - DIGITAL EFFECT (Page2) .... OFF
    - COLOR SS (Page2) .... OFF

2. Order of Adjustments

Basically carry out adjustments in the order given.

Color bar chart (Color reproduction adjustment frame)

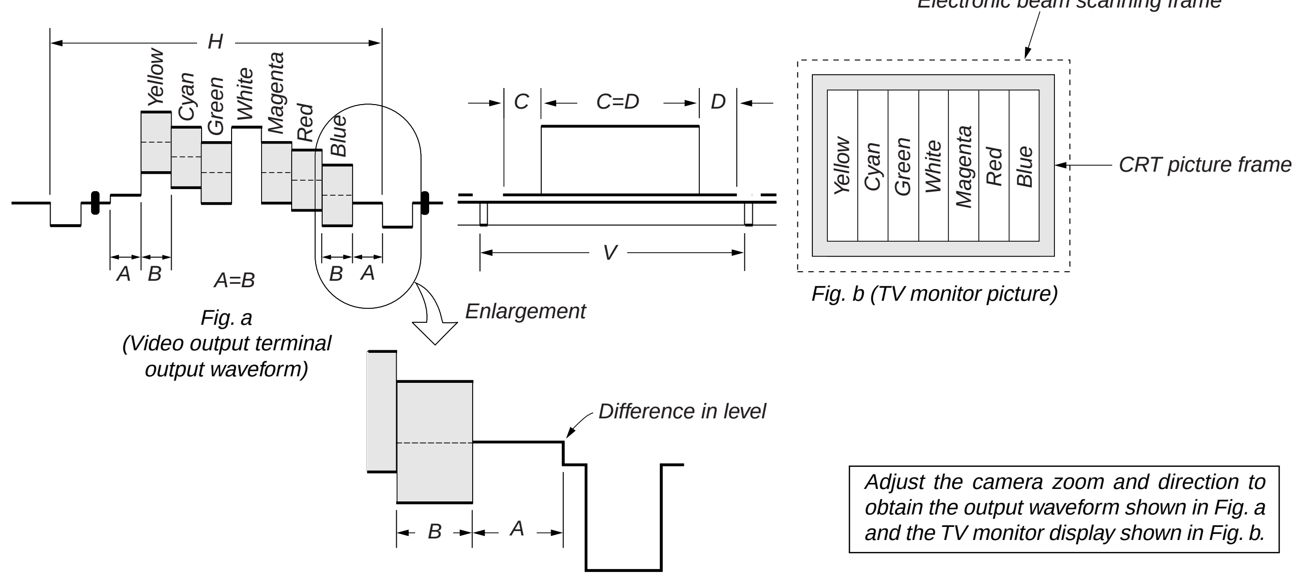

Electronic beam scanning frame
H
Yellow
Cyan
Green
White
Magenta
Red
Blue
C
C=D
D
V
CRT picture frame
Yellow
Cyan
Green
White
Magenta
Red
Blue
A
B
A=B
B
A
Enlargement
Difference in level
B
A

Fig. a
(Video output terminal
output waveform)

Fig. b (TV monitor picture)

Adjust the camera zoom and direction to obtain the output waveform shown in Fig. a and the TV monitor display shown in Fig. b.

Fig. 6-1-4.

3. Subjects

1) Color bar chart (Color reproduction adjustment frame)
   When performing adjustments using the color bar chart, adjust the picture frame as shown in Fig. 6-1-4. (Color reproduction adjustment frame)
2) Clear chart (Color reproduction adjustment frame)
   Remove the color bar chart from the pattern box and insert a clear chart in its place. (Do not perform zoom operations during this time.)
3) Flange back adjustment chart
   Make the chart shown in Fig. 6-1-5 using A0 size (1189mm × 841mm) black and white vellum paper.

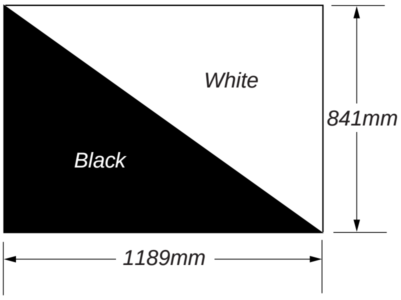

White
Black
841mm
1189mm

Fig. 6-1-5.

Note: Use matte vellum paper bigger than A0, and make sure the edges of the black and white paper joined together are not rough.

COVER

1-2. INITIALIZATION OF 8, A, B, C, D, E, F, 18, 1B, 1C, 1F PAGE DATA

Note: When reading or writing the 18, 1B, 1C or 1F page data, select page: 0, address: 10, and set data: 01, then select 8, B, C or F page. The 18, 1B, 1C or 1F page can be chosen by this data setting.
After reading or writing, reset the data of page: 0, address: 10 to "00".

[Connection of the power supply during the initialization of the data.]

1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 6-1-6.
2) Adjust the output voltage of the regulated power supply so that the digital voltmeter display is 6.0 ± 0.1Vdc.
3) Turn off the power supply.
4) Turn on the HOLD switch of the adjusting remote commander.
5) Turn on the power supply.
6) Perform the initialization of the data.

Note: This is normal though the following message is indicated on the LCD screen.
"FOR InfoLITHIUM BATTERY ONLY"

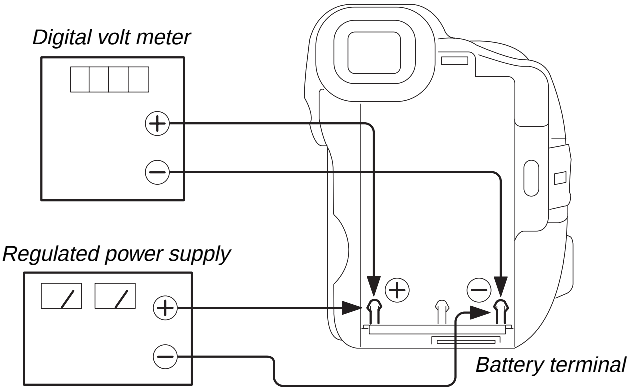


Fig. 6-1-6.

[Initialization Procedure]

1. Initialization of A, D page data
2. Initialization of B, 1B page data
3. Initialization of 8, C, 18, 1C page data
4. Initialization of E, F, 1F page data

1-2-1. INITIALIZATION OF A, D PAGE DATA

Note: The data of page: 0, address: 10 must be “00”.

1. Initializing the A, D Page Data

Note1: **If “Initializing the A, D Page Data” is performed, all data of the A page and D page will be initialized. (It is impossible to initialize a single page.)**

Note2: If the A, D page data has been initialized, the following adjustments need to be performed again.
1) Modification of A, D page data
2) Touch panel adjustment

Note3: The power supply voltage must be 6.0 ± 0.1Vdc.

Adjusting page	A
Adjusting Address	10 to FF
Adjusting page	D
Adjusting Address	10 to 7F

Initializing Method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	0	10	00	Set the data.
3	7	03		Set the following data. 02 (DCR-TRV22 (NTSC)) 82 (DCR-TRV22E (PAL))
4	7	00		Set the following data. 20 (Initializing A page) 22 (Initializing D page) 28 (Initializing A and D pages)
5	7	01		Set the following data, and press PAUSE button. 20 (Initializing A page) 22 (Initializing D page) 28 (Initializing A and D pages)
6	7	02		Check that the data changes to “01”
7				Perform “Modification of A, D Page Data”.

2. Modification of A, D Page Data

If the A, D page data has been initialized, change the data of the “Fixed data-2” address shown in the following tables by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note: If copy the data built in the different model, the camcorder may not operate.
3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.

Processing after Completing Modification of A, D Page data

Order	Page	Address	Data	Procedure
1	2	00	29	Set the data.
2	2	01	29	Set the data, and press PAUSE button.

Note: If the following symptoms occur after completing of the “Modification of A, D page data”, check that the data of the “Fixed data-2” addresses of A and D page are same as those of the same model of the same destination.
1) The self-diagnosis code “E:20:00” on the LCD screen is displayed.
2) The power is shut off so that unit cannot operate.

3. A Page Table

Note1: The data of page: 0, address: 10 must be “00”.

Note2: Fixed data-1: Initialized data. (Refer to “1. Initializing the A, D Page Data”.)
Fixed data-2: Modified data. (Refer to “2. Modification of A, D Page Data”.)

Address	Initial value		Remark
	NTSC	PAL	
00 to 0F			
10 to 17	Fixed data-1		
18	Fixed data-2		
19 to 2E	Fixed data-1		
2F	Fixed data-2		
30 to 51	Fixed data-1		
52	Fixed data-2		
53 to 59	Fixed data-1		
5A	Fixed data-2		
5B to 61	Fixed data-1		
62	Fixed data-2		
63			
64 to 6C	Fixed data-1		
6D	Fixed data-2		
6E to 83	Fixed data-1		
84	Fixed data-2		
85 to 8F	Fixed data-1		
90	DA	DB	Touch panel adj.
91	27	25	
92	E1	DA	
93	1C	23	
94 to CF	Fixed data-1		
D0	Fixed data-2		
D1			
D2 to FF	Fixed data-1		

Table. 6-1-2.

4. D Page Table

Note1: The data of page: 0, address: 10 must be “00”.

Note2: Fixed data-1: Initialized data. (Refer to “1. Initializing the A, D Page Data”.)
Fixed data-2: Modified data. (Refer to “2. Modification of A, D Page Data”.)

Address	Initial value	Remark
00 to 0F		
10	00	Test mode
11		Fixed data-1
12		Fixed data-2
13 to 15		Fixed data-1
16		Fixed data-2
17 to 22		Fixed data-1
23		Fixed data-2 (Modified data. Copy the data built in the same model.)
24		
25		
26		
27 to 29		Fixed data-1
2A		Fixed data-2
2B		
2C to 35		Fixed data-1
36		Fixed dat a-2
37		
38		
39		Fixed data-1
3A		Fixed data-2
3B to 57		Fixed data-1
58		Fixed data-2
59		
5A to 6E		Fixed data-1
6F		Fixed data-2
70 to 7F		Fixed data-1

Table. 6-1-3.

1-2-2. INITIALIZATION OF B, 1B PAGE DATA

Note: When reading or writing the B page data, select page: 0, address: 10, and set data: 00.
When reading or writing the 1B page data, select page: 0, address: 10, and set data: 01, then select B page. The 1B page can be chosen by this data setting.
After reading or writing, reset the data of page: 0, address: 10 to "00".

1. Initializing the B, 1B Page Data

Note1: **If "Initializing the B, 1B Page Data" is performed, all data of the B page and 1B page will be initialized. (It is impossible to initialize a single page.)**
Note2: If the B, 1B page data has been initialized, the following adjustments need to be performed again.
1) Modification of B, 1B page data
Note3: The power supply voltage must be 6.0 ± 0.1Vdc.

Adjusting page	B
Adjusting Address	00 to FF
Adjusting page	1B
Adjusting Address	00 to FF

Initializing Method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	0	10	00	Set the data.
3	5	02	FF	Set the data, and press PAUSE button.
4	5	01	F3	Set the data, and press PAUSE button.
5	5	00	01	Set the data, and press PAUSE button.
6	5	02		Check that the data changes to "00".
7				Perform "Modification of B, 1B Page Data".

2. Modification of B, 1B Page Data

If the B, 1B page data has been initialized, change the data of the "Fixed data-2" address shown in the following tables by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) When changing the B page data, select page: 0, address: 10, and set data: 00.
3) When changing the 1B page data, select page: 0, address: 10, and set data: 01.
After completing the modification of 1B page data, reset the data of this address to "00".
4) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
Note: If copy the data built in the different model, the camcorder may not operate.
5) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.

Processing after Completing Modification of B, 1B Page data:

Order	Page	Address	Data	Procedure
1	0	10	00	Set the data.
2	2	00	29	Set the data.
3	2	01	29	Set the data, and press PAUSE button.

3. B Page Table

Note1: The data of page: 0, address: 10 must be "00".
Note2: Fixed data-1: Initialized data. (Refer to "1. Initializing the B, 1B Page Data".)
Fixed data-2: Modified data. (Refer to "2. Modification of B, 1B Page Data".)

Address	Remark
00 to 02	Fixed data-1
03	Fixed data-2
04 to FF	Fixed data-1

Table. 6-1-4.

4. 1B Page Table

Note1: When reading or writing the 1B page data, select page: 0, address: 10, and set data: 01, then select B page. The 1B page can be chosen by this data setting.
After reading or writing, reset the data of page: 0, address: 10 to "00".
Note2: Fixed data-1: Initialized data. (Refer to "1. Initializing the B, 1B Page Data".)
Fixed data-2: Modified data. (Refer to "2. Modification of B, 1B Page Data".)

Address	Remark
00 to FF	Fixed data-1

Table. 6-1-5.

1-2-3. INITIALIZATION OF 8, C, 18, 1C PAGE DATA

Note: When reading or writing the 8, C page data, select page: 0, address: 10, and set data: 00.
When reading or writing the 18, 1C page data, select page: 0, address: 10, and set data: 01, then select 8 or C page. The 18 or 1C page can be chosen by this data setting.
After reading or writing, reset the data of page: 0, address: 10 to "00".

1. Initializing the 8, C, 18, 1C Page Data

Note1: **If "Initializing the 8, C, 18, 1C Page Data" is performed, all data of the 8 page, C page, 18 page and 1C page will be initialized. (It is impossible to initialize a single page.)**

Note2: If the 8, C, 18, 1C page data has been initialized, following adjustments need to be performed again.
1) Modification of 8, C, 18, 1C page data
2) Viewfinder system adjustments
3) LCD system adjustments
4) Serial No. input
5) Servo and RF system adjustments
6) Video system adjustments

Note3: The power supply voltage must be 6.0 ± 0.1Vdc.

Adjusting page	8
Adjusting Address	00 to FF
Adjusting page	C
Adjusting Address	10 to FF
Adjusting page	18
Adjusting Address	00 to FF
Adjusting page	1C
Adjusting Address	00 to FF

Initializing Method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	0	10	00	Set the data.
3	3	81		Check that the data is "00".
4	3	80	0C	Set the data, and press PAUSE button.
5	3	80		Check that the data changes to "1C".
6				Perform "Modification of 8, C, 18, 1C Page Data".

2. Modification of 8, C, 18, 1C Page Data

If the 8, C, 18, 1C page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) When changing the 8, C page data, select page: 0, address: 10, and set data: 00.
3) When changing the 18, 1C page data, select page: 0, address: 10, and set data: 01.
   After completing the modification of 18, 1C page data, reset the data of this address to "00".
4) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note: If copy the data built in the different model, the camcorder may not operate.
5) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
6) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification of 8, C, 18, 1C Page data

Order	Page	Address	Data	Procedure
1	0	10	00	Set the data.
2	2	00	29	Set the data.
3	2	01	29	Set the data, and press PAUSE button.

3. 8 Page Table

Note1: The data of page: 0, address: 10 must be "00".

Note2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, C, 18, 1C Page Data".)
Fixed data-2: Modified data. (Refer to "2. Modification of 8, C, 18, 1C Page Data".)

Address	Remark
00 to 29	Fixed data-1
2A	Fixed data-2
2B to 33	Fixed data-1
34	Fixed data-2
35 to 4E	Fixed data-1
4F	Fixed data-2
50 to 7A	Fixed data-1
7B	Fixed data-2
7C	
7D to 88	Fixed data-1
89	Fixed data-2
8A	
8B to 91	Fixed data-1
92	Fixed data-2
93 to 94	Fixed data-1
95	Fixed data-2
96 to AC	Fixed data-1
AD	Fixed data-2
AE to B0	Fixed data-1
B1	Fixed data-2 (Modified data. Copy the data built in the same model.)
B2	
B3	
B4 to B5	Fixed data-1
B6	Fixed data-2
B7 to BE	Fixed data-1
BF	Fixed data-2
CO to C7	Fixed data-1
C8	Fixed data-2 (Modified data. Copy the data built in the same model.)
C9	
CA	
CB	Fixed data-1
CC	Fixed data-2
CD to D5	Fixed data-1
D6	Fixed data-2
D7	
D8 to FF	Fixed data-1

Table. 6-1-6.

4. C Page Table

Note1: The data of page: 0, address: 10 must be "00".

Note2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, C, 18, 1C Page Data".)
Fixed data-2: Modified data. (Refer to "2. Modification of 8, C, 18, 1C Page Data".)

Address	Initial value	Remark
00 to 0F		
10	EE	Switching position adj.
11	00	
12	00	
13	00	
14 to 15		Fixed data-1
16	E0	CAP FG duty adj.
17 to 24		Fixed data-1
25	86	S VIDEO out Y level adj.
26	7D	S VIDEO out Cr level adj.
27	59	S VIDEO out Cb level adj.
28 to 33		Fixed data-1
34		Fixed data-2
35		
36	70	VCO adj. (EVF)
37	6F	
38		Fixed data-1
39	9E	RGB AMP adj. (EVF)
3A to 3B		Fixed data-1
3C	80	White balance adj. (EVF)
3D	74	
3E	24	Contrast adj. (EVF)
3F		Fixed data-1
40		Fixed data-2
41 to 44		Fixed data-1
45		Fixed data-2
46		
47	70	VCO adj. (LCD)
48	70	
49	24	V COM adj. (LCD)
4A	A0	RGB AMP adj. (LCD)
4B	06	Black limit adj. (LCD)
4C	45	PSIG GRAY adj. (LCD)
4D	7A	White balance adj. (LCD)
4E	5F	
4F	1C	Contrast adj. (LCD)
50	42	Center level adj. (LCD)
51 to 52		Fixed data-1
53		Fixed data-2
54		
55 to 57		Fixed data-1
58		Fixed data-2
59 to 60		Fixed data-1
61		Fixed data-2 (Modified data. Copy the data built in the same model.)
62		
63		
64		
65 to 9B		Fixed data-1

C page

Address	Initial value	Remark
9C		Fixed data-2
9D to A6		Fixed data-1
A7		Fixed data-2 (Modified data. Copy the data built in the same model.)
A8		
A9		
AA		Fixed data-1
AB		Fixed data-2
AC		
AD		
AE to AF		Fixed data-1
B0		Fixed data-2 (Modified data. Copy the data built in the same model.)
B1		
B2		
B3		Fixed data-1
B4		Fixed data-2
B5		
B6 to CB		Fixed data-1
CC		Fixed data-2 (Modified data. Copy the data built in the same model.)
CD		
CE		
CF		
D0		
D1		
D2		
D3		
D4		
D5		
D6 to DE		Fixed data-1
DF		Fixed data-2
E0	08	Serial No. input
E1	00	
E2	46	
E3	01	
E4	02	
E5	00	
E6	00	
E7	00	
E8 to F3		Fixed data-1
F4	00	Emergency memory address
F5	00	
F6	00	
F7	00	
F8	00	
F9	00	
FA	00	
FB	00	
FC	00	
FD	00	
FE	00	
FF	00	

Table. 6-1-7.

5. 18 Page Table

Note1: When reading or writing the 18 page data, select page: 0, address: 10, and set data: 01, then select 8 page. The 18 page can be chosen by this data setting.
After reading or writing, reset the data of page: 0, address: 10 to “00”.

Note2: Fixed data-1: Initialized data. (Refer to “1. Initializing the 8, C, 18, 1C Page Data”.)
Fixed data-2: Modified data. (Refer to “2. Modification of 8, C, 18, 1C Page Data”.)

Address	Remark
00	Fixed data-1
01	Fixed data-2
02 to C4	Fixed data-1
C5	Fixed data-2
C6 to FF	Fixed data-1

Table. 6-1-8.

6. 1C Page Table

Note1: When reading or writing the 1C page data, select page: 0, address: 10, and set data: 01, then select C page. The 1C page can be chosen by this data setting.
After reading or writing, reset the data of page: 0, address: 10 to "00".

Note2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, C, 18, 1C Page Data".)
Fixed data-2: Modified data. (Refer to "2. Modification of 8, C, 18, 1C Page Data".)

Address	Initial value	Remark
00 to 77		Fixed data-1
78		Fixed data-2
79 to B2		Fixed data-1
B3	00	Error rate check
B4	00	
B5	00	
B6	00	
B7	00	
B8	80	
B9	00	
BA	00	
BB	00	
BC	00	
BD	00	
BE	00	
BF	00	
C0	00	
C1	00	
C2	00	
C3	80	
C4	00	
C5	00	
C6	00	
C7	00	
C8	00	
C9 to FF		Fixed data-1

Table. 6-1-9.

1-2-4. INITIALIZATION OF E, F, 1F PAGE DATA

Note: When reading or writing the E, F page data, select page: 0, address: 10, and set data: 00.
When reading or writing the 1F page data, select page: 0, address: 10, and set data: 01, then select F page. The 1F page can be chosen by this data setting.
After reading or writing, reset the data of page: 0, address: 10 to "00".

1. Initializing the E, F, 1F Page Data

Note1: If "Initializing the E, F, 1F Page Data" is performed, all data of the E page, F page and 1F page will be initialized. (It is impossible to initialize a single page.)

Note2: If the E, F, 1F page data has been initialized, following adjustments need to be performed again.
1) Modification of E, F, 1F page data
2) Camera system adjustments

Note3: The power supply voltage must be 6.0 ± 0.1Vdc.

Note4: NTSC model: DCR-TRV22
PAL model: DCR-TRV22E

Adjusting page	E
Adjusting Address	00 to FF
Adjusting page	F
Adjusting Address	10 to FF
Adjusting page	1F
Adjusting Address	00 to E3

Initializing Method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	0	10	00	Set the data.
3	6	01		Set the following data, and press PAUSE button. 2D (NTSC), 2F (PAL)
4	6	03	FF	Set the data, and press PAUSE button.
5	6	02		Check that the data changes to "01".
6				Perform "Modification of E, F, 1F Page Data".

2. Modification of E, F, 1F Page Data

If the E, F, 1F page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) When changing the E, F page data, select page: 0, address: 10, and set data: 00.
3) When changing the 1F page data, select page: 0, address: 10, and set data: 01.
After completing the modification of 1F page data, reset the data of this address to "00".
4) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
Note: If copy the data built in the different model, the camcorder may not operate.
5) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
4) Check that the data of adjustment addresses is the initial value.
If not, change the data to the initial value.

Processing after Completing Modification of E, F, 1F Page data

Order	Page	Address	Data	Procedure
1	0	10	00	Set the data.
2	2	00	29	Set the data.
3	2	01	29	Set the data, and press PAUSE button.
4				Perform "36MHz Origin Osc. Adjustment" of the camera system adjustment.

3. E Page Table

Note1: The data of page: 0, address: 10 must be “00”.
Note2: Fixed data-1: Initialized data. (Refer to “1. Initializing the E, F, 1F Page Data”.)
Fixed data-2: Modified data. (Refer to “2. Modification of E, F, 1F Page Data”.)

Address	Remark
00 to 26	Fixed data-1
27	Fixed data-2
28 to 34	Fixed data-1
35	Fixed data-2
36 to 3D	Fixed data-1
3E	Fixed data-2
3F to 74	Fixed data-1
75	Fixed data-2 (Modified data. Copy the data built in the same model.)
76	
77	
78	
79 to 7B	Fixed data-1
7C	Fixed data-2 (Modified data. Copy the data built in the same model.)
7D	
7E	
7F to 99	Fixed data-1
9A	Fixed data-2
9B to AD	Fixed data-1
AE	Fixed data-2
AF to CD	Fixed data-1
C1	Fixed data-2
C2 to D3	Fixed data-1
D4	Fixed data-2
D5 to FF	Fixed data-1

Table. 6-1-10.

4. F Page Table

Note1: The data of page: 0, address: 10 must be “00”.
Note2: Fixed data-1: Initialized data. (Refer to “1. Initializing the E, F, 1F Page Data”.)
Fixed data-2: Modified data. (Refer to “2. Modification of E, F, 1F Page Data”.)

Address	Initial value		Remark
	NTSC	PAL	
00 to 0F			
10	80	80	36MHz origin osc. adj.
11 to 12			Fixed data-1
13	81	81	HALL adj.
14	5D	5D	
15	88	88	
16			Fixed data-1
17	9A	9A	MAX GAIN adj.
18	80	80	LV standard data input
19	7A	7A	
1A	1B	1B	AWB standard data input
1B	00	00	
1C	07	07	
1D	00	00	
1E	0E	0E	Auto white balance adj.
1F	00	00	
20	0D	0D	
21	00	00	
22			Fixed data-1
23	22	22	Color reproduction adj.
24			Fixed data-1
25	27	24	Color reproduction adj.
26 to 29			Fixed data-1
2A	00	00	Color reproduction adj.
2B	F1	EF	
2C to 31			Fixed data-1
32	19	19	Flange back adj.
33	51	51	
34	20	20	
35	22	22	
36	13	13	
37	93	93	
38	00	00	
39	00	00	
3A	00	00	
3B	00	00	
3C	46	46	
3D	19	19	
3E	00	00	
3F	2A	2A	
40	00	00	
41	00	00	
42	00	00	
43 to 43			Fixed data-1
44			Fixed data-2
45			
46	FF	FF	Optical axis adj.

F page

Address	Initial value		Remark
	NTSC	PAL	
47 to 4F			Fixed data-1
50	80	80	Mechanical shutter adj.
51	80	80	
52	80	80	
53	80	80	
54	80	80	
55	80	80	
56	40	40	
57	00	00	
58	34	34	
59	00	00	
5A	30	30	
5B	00	00	
5C	2A	2A	
5D	00	00	
5E	14	14	
5F	00	00	
60	70	70	
61	80	80	
62	80	80	
63	80	80	
64	80	80	
65	1E	1E	
66 to FF			Fixed data-1
85			Fixed data-2
86			Fixed data-1
87			Fixed data-2
88 to 89			Fixed data-1
8A			Fixed data-2 (Modified data. Copy the data built in the same model.)
8B			
8C			
8D			
8E			
8F to 92			Fixed data-1
93			Fixed data-2
94			Fixed data-1
95			Fixed data-2
96			Fixed data-1
97			Fixed data-2
98			
99 to 9D			Fixed data-1
9E			Fixed data-2 (Modified data. Copy the data built in the same model.)
9F			
A0			
A1			Fixed data-1
A2			Fixed data-2
A3			Fixed data-1
A4			Fixed data-2
A5 to A6			Fixed data-1
A7			Fixed data-2
A8			
A9 to B6			Fixed data-1

Address	Initial value		Remark
	NTSC	PAL	
B7			Fixed data-2
B8			
B9 to B0			Fixed data-1
BE			Fixed data-2
BF			
C0 to C5			Fixed data-1
C6			Fixed data-2
C7			
C8			Fixed data-1
C9			Fixed data-2 (Modified data. Copy the data built in the same model.)
CA			
CB			
CC			
CD to D4			Fixed data-1
D5			Fixed data-2
D6			
D7			Fixed data-1
D8			Fixed data-2 (Modified data. Copy the data built in the same model.)
D9			
DA			
DB			
DC			
DD			
DE			
DF			
E0 to E3			Fixed data-1
E4			Fixed data-2
E5			
E6			Fixed data-1
E7			Fixed data-2
E8 to EB			Fixed data-1
EC			Fixed data-2 (Modified data. Copy the data built in the same model.)
ED			
EE			
EF			Fixed data-1
F0			Fixed data-2 (Modified data. Copy the data built in the same model.)
F1			
F2			
F3			
F4			
F5			
F6			
F7			
F8			
F9			
FA			
FB			
FC			
FD			
FE			
FF			

Table. 6-1-11.

5. 1F Page Table

Note1: When reading or writing the 1F page data, select page: 0, address: 10, and set data: 01, then select F page. The 1F page can be chosen by this data setting.
After reading or writing, reset the data of page: 0, address: 10 to "00".

Note2: Fixed data-1: Initialized data. (Refer to "1. Initializing the E, F, 1F Page Data".)
Fixed data-2: Modified data. (Refer to "2. Modification of E, F, 1F Page Data".)

Address	Remark
00 to 04	Fixed data-1
05	Fixed data-2
06 to 07	Fixed data-1
08	Fixed data-2
09 to 5B	Fixed data-1
5C	Fixed data-2
5D to C9	Fixed data-1
CA	Fixed data-2 (Modified data. Copy the data built in the same model.)
CB	
CC	
CD	
CE	Fixed data-1
CF	Fixed data-2
D0	
D1 to E3	Fixed data-1

Table. 6-1-12.

1-3. CAMERA SYSTEM ADJUSTMENTS

Before perform the camera system adjustments (except for “36MHz Origin Oscillation Adjustment”), check that the specified values of “VIDEO SYSTEM ADJUSTMENTS” are satisfied.
And check that the data of page: 0, address: 10 is “00”. If not, set data: 00 to this address.

1. 36MHz Origin Oscillation Adjustment (VC-312 board)

Set the frequency of the clock for synchronization.
If deviated, the synchronization will be disrupted and the color will become inconsistent.

Subject	Not required
Measurement Point	Pin ⑫ of IC1401
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	10
Specified Value	f=18000000 ± 90Hz

Note1: The data of page: 0, address: 10 must be “00”.
Note2: When open the VA-118 board, use the following extension cable between the VC-312 board CN1002 and VA-118 board CN4004.
J-6082-352-A (100P, 0.5mm)

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	F	10		Change the data and set the frequency (f) to the specified value.
3	F	10		Press PAUSE button.
4	0	01	00	Set the data.

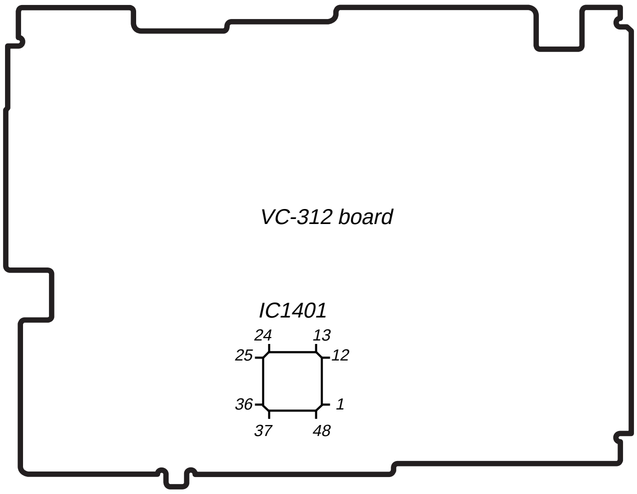


Fig. 6-1-7.

2. HALL Adjustment

For detecting the position of the lens iris and ND filter, adjust AMP gain and offset.

Subject	Not required
Measurement Point	Display data of page 1 (Note1)
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	13, 14, 15
Specified Value 1	15 to 19
Specified Value 2	87 to 8B

Note1: Displayed data of page 1 of the adjustment remote commander.
1 : 00 : XX
└─ IRIS display data
Note2: The data of page: 0, address: 10 must be “00”.
Note3: Check that the data of page: 6, address: 02 is “00”. If not, to page: 6, address: 01, set data: 00, and press the PAUSE button.

Switch setting:
POWER .... CAMERA

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	6	94	17	Set the data.
3	6	95	89	Set the data.
4	6	01	6D	Set the data, and press PAUSE button.
5	6	02		Check that the data changes to “01”. (Note4)
6	6	01	00	Set the data, and press PAUSE button.

Note4: The adjustment data will be automatically input to page: F, address: 13, 14, 15.

Checking method:

Order	Page	Address	Data	Procedure
1	0	03	03	Set the data.
2	6	01	01	Set the data, and press PAUSE button.
3	1			Check that the IRIS display data (Note1) satisfies the specified value 1.
4	6	01	03	Set the data, and press PAUSE button.
5	1			Check that the IRIS display data (Note1) satisfies the specified value 2.

Processing after Completing Adjustments:

Order	Page	Address	Data	Procedure
1	6	94	00	Set the data.
2	6	95	00	Set the data.
3	6	01	00	Set the data, and press PAUSE button.
4	0	03	00	Set the data.
5	0	01	00	Set the data.

3. Flange Back Adjustment (Using Minipattern Box) RadarW

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Siemens star chart with ND filter for the minipattern box (Note1)
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	32 to 42

Note1: Dark Siemens star chart.
Note2: This adjustment should be carried out upon completion of “HALL Adjustment”.
Note3: Make the lens horizontal and perform this adjustment.
Note4: The data of page: 0, address: 10 must be “00”.
Note5: Check that the data of page: 6, address: 02 is “00”. If not, turn off the power and turn on again.

Switch setting:

1) POWER .... CAMERA
2) NIGHT SHOT .... OFF

Preparations:

1) The minipattern box is installed as shown in the following figure.
   Note: The attachment lenses are not used.
2) Install the minipattern box so that the distance between it and the front of the lens of the camcorder is less than 3cm.
3) Make the height of the minipattern box and the camcorder equal.
4) Check that the output voltage of the regulated power supply is the specified voltage.
5) Check that at both the zoom lens TELE end and WIDE end, the center of the Siemens star chart and center of the exposure screen coincide.

Specified voltage:

The specified voltage varies according to the minipattern box, so adjust the power supply output voltage to the specified voltage written on the sheet which is supplied with the minipattern box.

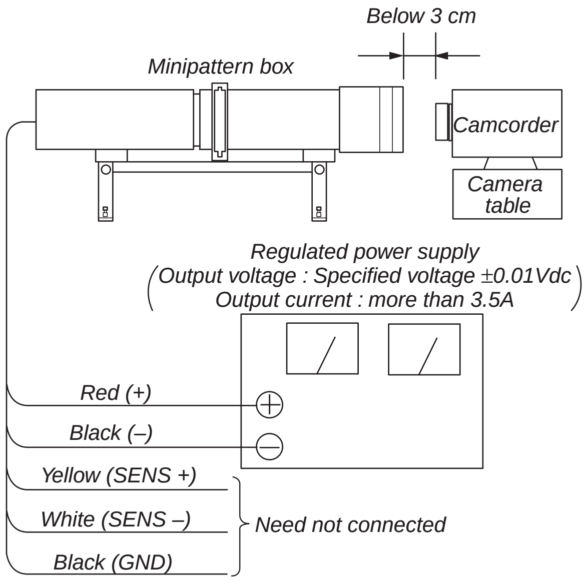


Fig. 6-1-8.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	6	48	01	Set the data.
3	6	01	13	Set the data, and press PAUSE button. (Note3)
4	6	01	27	Set the data, and press PAUSE button.
5	6	02		Check that the data changes to “01”. (Note6)

Note6: The adjustment data will be automatically input to page: F, address: 32 to 42.

Processing after Completing Adjustments:

Order	Page	Address	Data	Procedure
1	6	48	00	Set the data.
2	0	01	00	Set the data.
3				Turn off the power and turn on again.
4				Perform “Flange Back Check”.

4. Flange Back Adjustment (Using Flange Back Adjustment Chart and Subject More Than 500m Away)

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

4-1. Flange Back Adjustment (1) RadarW

Subject	Flange back adjustment chart (2.0 m from the front of the protection glass) (Luminance: 350 ± 50 lux)
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	32 to 42

Note1: This adjustment should be carried out upon completion of “HALL Adjustment”.
Note2: Make the lens horizontal and perform this adjustment.
Note3: The data of page: 0, address: 10 must be “00”.
Note4: Check that the data of page: 6, address: 02 is “00”. If not, turn off the power and turn on again.

Switch setting:

1) POWER .... CAMERA
2) NIGHT SHOT .... OFF

Preparations:

1) Check that at both the zoom lens TELE end and WIDE end, the center of the chart for the flange back adjustment and center of the exposure screen coincide.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	6	48	01	Set the data.
3	6	01	13	Set the data, and press PAUSE button. (Note2)
4	6	01	15	Set the data, and press PAUSE button.
5	6	02		Check that the data changes to “01”. (Note5)

Note5: The adjustment data will be automatically input to page: F, address: 32 to 42.

Processing after Completing Adjustments:

Order	Page	Address	Data	Procedure
1				Turn off the power and turn on again.
2				Perform “Flange Back Adjustment (2)”

4-2. Flange Back Adjustment (2) RadarW

Perform this adjustment after performing “Flange Back Adjustment (1)”.

Subject	Subject more than 500m away (Subjects with clear contrast such as buildings, etc.)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	46 to 56

Note1: Make the lens horizontal and perform this adjustment.
Note2: The data of page: 0, address: 10 must be “00”.
Note3: Check that the data of page: 6, address: 02 is “00”, turn off the power and turn on again.

Switch setting:

1) POWER .... CAMERA
2) NIGHT SHOT .... OFF

Preparations:

1) Set the zoom lens to the TELE end and expose a subject that is more than 500m away (subject with clear contrast such as building, etc.). (Nearby subjects less than 500m away should not be in the screen.)

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	6	48	01	Set the data.
3	6	01	13	Set the data, and press PAUSE button. (Note2)
4				Place a ND filter on the lens so that the optimum image is obtain.
5	6	01	29	Set the data, and press PAUSE button.
6	6	02		Check that the data changes to “01”. (Note4)

Note4: The adjustment data will be automatically input to page: F, address: 32 to 42.

Processing after Completing Adjustments:

Order	Page	Address	Data	Procedure
1	6	48	00	Set the data.
2	0	01	00	Set the data.
3				Turn off the power and turn on again.
4				Perform “Flange Back Check”

5. Flange Back Check

Subject	Siemens star (2.0 m from the front of the lens) (Luminance : approx. 200 lux)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Specified Value	Focused at the TELE end and WIDE end.

Note1: The data of page: 0, address: 10 must be “00”.

Switch setting:

1) POWER .... CAMERA
2) NIGHT SHOT .... OFF

Note2: When the auto focus is ON, the lens can be checked if it is focused or not by observing the data on the page 1 of the adjustment remote commander.
1) Select page: 0, address: 03, and set data: 0F.
2) Page 1 shows the state of the focus.

1 : 00 : XX
Odd: Focused
Even: Unfocused

Checking method:

1) Select page: 6, address: 40, and set data: 01.
2) Select page: 6, address: 41, and set data: 01.
3) Place the Siemens star 2.0m from the front of the lens.
4) To open the IRIS, decrease the luminous intensity to the Siemens star up to a point before noise appear on the image.
5) Shoot the Siemens star with the zoom TELE end.
6) Turn on the auto focus.
7) Check that the lens is focused (Note2).
8) Select page: 6, address: 21, and set data: 10.
9) Shoot the Siemens star with the zoom WIDE end.
10) Observe the TV monitor and check that the lens is focused.

Processing after Completing Adjustments:

1) Select page: 6, address: 21, and set data: 00.
2) Select page: 6, address: 40, and set data: 00.
3) Select page: 6, address: 41, and set data: 00.
4) Select page: 0, address: 03, and set data: 00.

6. Optical Axis Adjustment

Align the lens Optical Axis with that of the CCD imager. If deviated, center of picture can lose focus when zoom is operated from the WIDE end to the TELE end.

Subject	Siemens star
Measurement Point	Check on the monitor TV
Measuring Instrument	
Adjustment Page	F
Adjustment Address	46

Note1: This adjustment should be carried out upon completion of “Flange back adjustment”.
Note2: The data of page: 0, address: 10 must be “00”.
Note3: Check that the data of page: 6, address: 48 is “00”. If not, set data: 00 to this address.
Note4: NTSC model : DCR-TRV22
PAL model : DCR-TRV22E

Switch setting:

1) POWER .... CAMERA
2) DIGITAL ZOOM (Menu setting) .... OFF
3) STEADY SHOT (Menu setting) .... OFF

Preparations before adjustments:

1) Playback the monoscope segment of the system check tape (XH5-5 (NTSC), XH5-5P (PAL),).
2) Attach the optical axis frame chart (transparent) on the monitor TV screen. Center of monoscope image and that of optical axis frame must be agree.
3) Set to the camera mode.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: F, address: 46, set data: 00, and press the PAUSE button.
3) Place the Siemens star 2.0 m away from the front of the lens.
4) Shoot the Siemens star with the zoom TELE end.
5) Point the lens toward the Siemens star chart until center of the Siemens star is located in the center of the optical axis frame.
6) Shoot the Siemens star with the zoom WIDE end.
7) Measure on the monitor TV screen in which area of the optical axis frame the center of the Siemens star is located. Measure the amount of displacement (distance between the center of the Siemens star and the center of the optical axis frame.) The measurement value is named L1.
8) Read the correction data corresponding to the area from Table 6-1-11.
9) Input the correction data to page: F, address: 46, and press the PAUSE button
10) Shoot the Siemens star with the zoom TELE end.
11) Point the lens toward the Siemens star chart until center of the Siemens star is located in the center of the optical axis frame.
12) Shoot the Siemens star with the zoom WIDE end.
13) Measure the amount of displacement (distance between the center of the Siemens star and the center of the optical axis frame.) The measurement value is named L2.
14) Compare the values L1 and L2, and confirm that L2 is smaller than L1. If L2 is lager than L1, select page: F, address: 46, set data: 00, and press the PAUSE button.

Area	Display phase	Correction data (Page: F, address: 46)
1	22.6° to 67.5°	01
2	67.6° to 112.5°	02
3	112.6° to 157.5°	03
4	157.6° to 202.5°	04
5	202.6°to 247.5°	05
6	247.6° to 292.5°	06
7	292.6° to 337.5°	07
8	337.6° to 22.5°	08

Table 6-1-11.

Processing after Completing Adjustments:

1) Select page: 0, address: 01, and set data: 00.

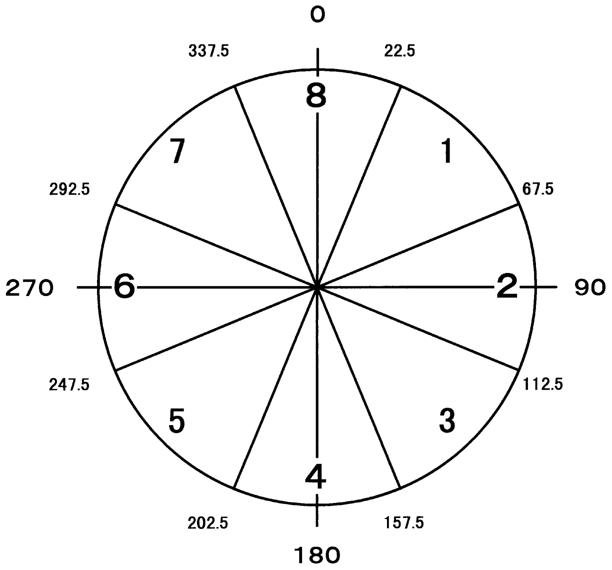


Fig. 6-1-9.

7. Mechanical Shutter Adjustment RadarW

Adjustment Page	F
Adjustment Address	50 to 65

Note1: The data of page: 0, address: 10 must be “00”.
Note2: NTSC model: DCR-TRV22
PAL model: DCR-TRV22E

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Input the following data to page: F, addresses: 50 to 65.
   Note: Press the PAUSE button of the adjustment remote commander each time to set the data.

Address	Data	
	NTSC	PAL
50	80	80
51	80	80
52	80	80
53	80	80
54	80	80
55	80	80
56	40	40
57	00	00
58	34	34
59	00	00
5A	30	30
5B	00	00
5C	2A	2A
5D	00	00
5E	14	14
5F	00	00
60	70	70
61	80	80
62	80	80
63	80	80
64	80	80
65	1E	1E

3) Select page: 0, address: 01, and set data: 00.

8. Picture Frame Setting

Subject	Color bar chart (Color reproduction adjustment frame) (1.5m from the front of the lens)
Measurement Point	Video terminal of AUDIO/ VIDEO jack
Measuring Instrument	Oscilloscope and TV monitor
Specified Value	A=B, C=D, E=F

Note1: The following adjustments should be carried out upon completion of "Flange back adjustment" and "Optical Axis Adjustment".
Note2: The data of page: 0, address: 10 must be "00".

Switch setting:

1) POWER .... CAMERA
2) NIGHT SHOT .... OFF
3) DIGITAL ZOOM (Menu setting) .... OFF
4) STEADY SHOT (Menu setting) .... OFF

Setting method:

1) Select page: 6, address: 48, and set data: 02.
2) Adjust the zoom and the camera direction, and set to the specified position.
3) Mark the position of the picture frame on the monitor display, and adjust the picture frame to this position in following adjustments using "Color reproduction adjustment frame".

Processing after Completing Camera System Adjustments:
After completing the camera system adjustments, release the data settings.

1) Select page: 6, address: 48, and set data: 00.

Check on the oscilloscope

1. Horizontal period

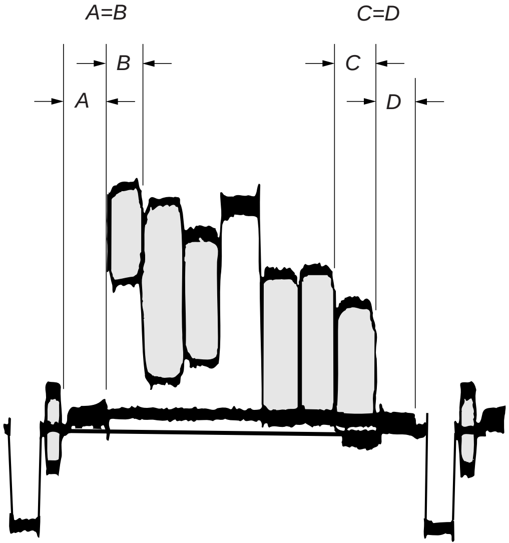


Fig. 6-1-10.

2. Vertical period

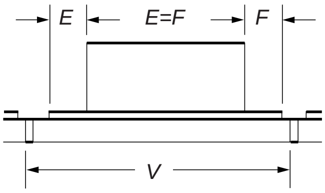


Fig. 6-1-11.

Check on the monitor TV (Underscanned mode)

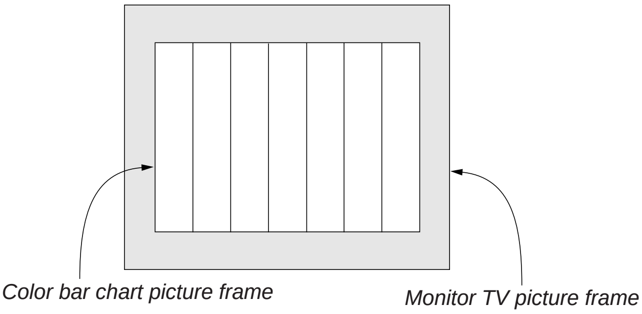


Fig. 6-1-12.

9. Color Reproduction Adjustment

Adjust the color Separation matrix coefficient so that proper color reproduction is produced.

Subject	Color bar chart (Color reproduction adjustment frame)
Measurement Point	Video terminal of AUDIO/VIDEO jack
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	23, 25, 2A, 2B
Specified Value	All color luminance points should settle within each color reproduction frame.

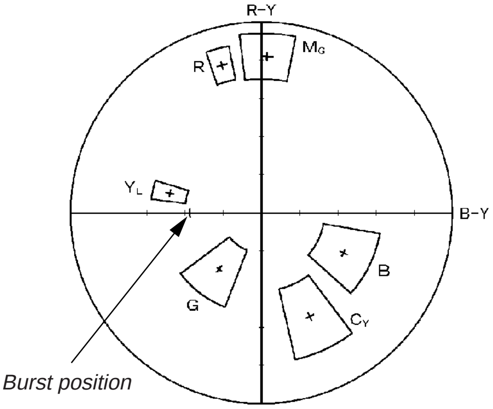
Note1: This adjustment should be carried out upon completion of “Flange back adjustment” and “Optical Axis Adjustment”.
Note2: The data of page: 0, address: 10 must be “00”.
Note3: NTSC model: DCR-TRV22
PAL model: DCR-TRV22E

Switch setting:
1) POWER .... CAMERA
2) NIGHT SHOT .... OFF
3) DIGITAL ZOOM (Menu setting) .... OFF
4) STEADY SHOT (Menu setting) .... OFF

Adjusting method:
1) Select page: 0, address: 01, and set data: 01.
2) Select page: 6, address: 48, and set data: 02.
3) Select page: 6, address: 9D, and set data: 29.
4) Select page: 6, address: 01, set data: 3D, and press the PAUSE button.
5) Select page: F, address: 80, set the following data, and press the PAUSE button.
   37 (NTSC), B7 (PAL)
6) Adjust the GAIN and PHASE of the vectorscope, and adjust the burst luminance point to the burst position of the color reproduction frame.
7) Change the data of page: F, address: 23, 25, 2A and 2B, and settle each color luminance point in each color reproduction frame.
   Note: Be sure to press the PAUSE button of the adjustment remote commander before changing the addresses. If not, the new data will not be written to the memory.

Processing after Completing Adjustments:
1) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
2) Select page: 6, address: 48, and set data: 00.
3) Select page: 6, address: 9D, and set data: 00.
4) Select page: 0, address: 01, and set data: 00.

For NTSC model



For PAL model

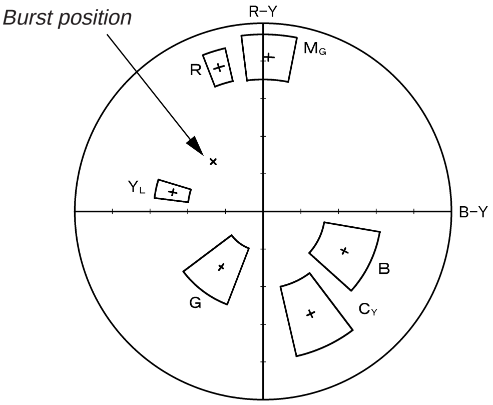


Fig. 6-1-13.

10. MAX GAIN Adjustment RadarW

Setting the minimum illumination.
If it is not consistent, the image level required for taking subjects in low illuminance will not be produced (dark).

Subject	Clear chart (Color reproduction adjustment frame)
Adjustment Page	F
Adjustment Address	17

Note1: This adjustment should be carried out upon completion of “Flange back adjustment” and “Optical Axis Adjustment”.
Note2: The data of page: 0, address: 10 must be “00”.
Note3: Check that the data of page: 6, address: 02 is “00”. If not, to page: 6, address: 01, set data: 00, and press the PAUSE button.
Note4: NTSC model: DCR-TRV22
PAL model: DCR-TRV22E

Switch setting:

1) POWER .... CAMERA
2) NIGHT SHOT .... OFF
3) DIGITAL ZOOM (Menu setting) .... OFF
4) STEADY SHOT (Menu setting) .... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	6	48	02	Set the data.
3	6	96		Set the following data. 24 (NTSC), 18(PAL)
4	6	97	00	Set the data.
5	6	01	6F	Set the data, and press PAUSE button.
6	6	02		Check that the data changes to “01”. (Note5)

Note5: The adjustment data will be automatically input to page: F, address: 17.

Processing after Completing Adjustments

Order	Page	Address	Data	Procedure
1	6	48	00	Set the data.
2	6	96	00	Set the data.
3	6	97	00	Set the data.
4	6	01	00	Set the data, and press PAUSE button.
5	0	01	00	Set the data.

11. LV Standard Data Input RadarW

And adjust the normal coefficient of the light value.

Subject	Clear chart (Color reproduction adjustment frame)
Measurement Point	Display data of page 1 (Note4)
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	18, 19
Specified Value	0FF0 to 1010

Note1: This adjustment should be carried out upon completion of “Flange back adjustment”, “Optical Axis Adjustment”, “Color reproduction adjustment” and “MAX GAIN Adjustment”.
Note2: The data of page: 0, address: 10 must be “00”.
Note3: Check that the data of page: 6, address: 02 is “00”. If not, to page: 6, address: 01, set data: 00, and press the PAUSE button.
Note4: Displayed data of page 1 of the adjustment remote commander.

1 : XX : XX
Display data

Switch setting:

1) POWER .... CAMERA
2) NIGHT SHOT .... OFF
3) DIGITAL ZOOM (Menu setting) .... OFF
4) STEADY SHOT (Menu setting) .... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	6	48	02	Set the data.
3	6	01	0D	Set the data, and press PAUSE button.
4	6	02		Check that the data changes to “01”. (Note5)
5	0	03	1E	Set the data.
6	1			Check that the display data (Note5) satisfies the specified value.

Note5: The adjustment data will be automatically input to page: F, address: 18, 19.

Processing after Completing Adjustments

Order	Page	Address	Data	Procedure
1	6	01	00	Set the data, and press PAUSE button.
2	6	48	00	Set the data.
3	0	03	00	Set the data.
4	0	01	00	Set the data.
5				Perform “Auto White Balance Standard Data Input”.

12. Auto White Balance Standard Data Input RadarW

Adjust the white balance reference at 3200K.

Subject	Clear chart (Color reproduction adjustment frame)
Adjustment Page	F
Adjustment Address	1A to 1D

Note1: This adjustment should be carried out upon completion of “Flange back adjustment”, “Optical Axis Adjustment” and “Color reproduction adjustment”.

Note2: The data of page: 0, address: 10 must be “00”.

Note3: Check that the data of page: 6, address: 02 is “00”. If not, to page: 6, address: 01, set data: 00, and press the PAUSE button.

Switch setting:

1) POWER .... CAMERA
2) NIGHT SHOT .... OFF
3) DIGITAL ZOOM (Menu setting) .... OFF
4) STEADY SHOT (Menu setting) .... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	6	48	02	Set the data.
3	6	01	11	Set the data, and press PAUSE button.
4	6	01	0B	Set the data, and press PAUSE button.
5	6	02		Check that the data changes to “01”. (Note4)

Note4: The adjustment data will be automatically input to page: F, address: 1A to 1D.

Processing after Completing Adjustments

Order	Page	Address	Data	Procedure
1	6	01	00	Set the data, and press PAUSE button.
2	6	48	00	Set the data.
3	0	01	00	Set the data.
4				Perform “Auto White Balance Adjustment”.

13. Auto White Balance Adjustment RadarW

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Measurement Point	Display data of page 1 (Note5)
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	1E to 21
Specified Value	R ratio: 2AB0 to 2B30 (NTSC) 2AA8 to 2B28 (PAL) B ratio: 56F0 to 5770 (NTSC) 56A0 to 5720 (PAL)

Note1: This adjustment should be carried out upon completion of “Auto White Balance & LV Standard Data Input”.

Note2: The data of page: 0, address: 10 must be “00”.

Note3: Check that the data of page: 6, address: 02 is “00”. If not, to page: 6, address: 01, set data: 00, and press the PAUSE button.

Note4: Displayed data of page 1 of the adjustment remote commander.

1 : XX : XX
Display data

Note5: NTSC model: DCR-TRV22
PAL model: DCR-TRV22E

Switch setting:

1) POWER .... CAMERA
2) NIGHT SHOT .... OFF
3) DIGITAL ZOOM (Menu setting) .... OFF
4) STEADY SHOT (Menu setting) .... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1				Place the C14 filter for color temperature correction on the lens.
2	0	01	01	Set the data.
3	6	48	02	Set the data.
4	F	2E		Write down the data.
5	F	2E	2A	Set the data, and press PAUSE button.
6	F	2F		Write down the data.
7	F	2F		Set the following data, and press PAUSE button. F0 (NTSC), E8 (PAL)
8	F	30		Write down the data.
9	F	30		Set the following data, and press PAUSE button. 57 (NTSC), 56 (PAL)
10	F	31		Write down the data.
11	F	31		Set the following data, and press PAUSE button. 30 (NTSC), E0 (PAL)
12	6	01	83	Set the data, and press PAUSE button.
13	6	01	81	Set the data, and press PAUSE button.
14	6	02		Check that the data changes to “01”. (Note6)
15	6	01	3F	Set the data, and press PAUSE button.
16	0	03	04	Set the data.
17	1			Check that the display data (Note4) satisfies the R ratio specified value.
18	0	03	05	Set the data.
19	1			Check that the display data (Note4) satisfies the B ratio specified value.

Note6: The adjustment data will be automatically input to page: F, address: 1E to 21.

Processing after Completing Adjustments:

Order	Page	Address	Data	Procedure
1	6	01	00	Set the data, and press PAUSE button.
2	6	48	00	Set the data.
3	F	2E		Set the data that is written down at step 4, and press PAUSE button.
4	F	2F		Set the data that is written down at step 6, and press PAUSE button.
5	F	30		Set the data that is written down at step 8, and press PAUSE button.
6	F	31		Set the data that is written down at step 10, and press PAUSE button.
7	0	03	00	Set the data.
8	0	01	00	Set the data.

14. White Balance Check RadarW

Subject	Clear chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction ND filter 1.0 and 0.4 and 0.1
Measurement Point	Video terminal of AUDIO/ VIDEO jack
Measuring Instrument	Vectorscope
Specified Value	Fig. 6-1-14. A to B

Note1: The data of page: 0, address: 10 must be “00”.

Switch setting:

1) POWER .... CAMERA
2) NIGHT SHOT .... OFF
3) DIGITAL ZOOM (Menu setting) .... OFF
4) STEADY SHOT (Menu setting) .... OFF

Checking method:

Order	Page	Address	Data	Procedure
				Indoor white balance check
1				Check that the lens is not covered with either filter.
2	6	48	02	Set the data.
3	6	01	0F	Set the data, and press PAUSE button.
4				Check that the center of the white luminance point is within the circle shown Fig. 6-1-14. A.
5	6	01	00	Set the data, and press PAUSE button.
				Outdoor white balance check
6				Place the C14 filter on the lens.
7	6	01	3F	Set the data, and press PAUSE button.
8				Check that the center of the white luminance point is within the circle shown Fig. 6-1-14. B.
9				Remove the C14 filter.
				LV data check
10				Place the ND filter 1.5 (1.0+0.1+0.4) on the lens.
11	6	01	00	Set the data, and press PAUSE button.
12	0	03	06	Set the data.
13	1			Check that the display data (Note2) satisfies the specified value. Specified value: 8000 to 8BC0

Note2: Displayed data of the adjustment remote commander.

1 : XX : XX
└── Display data

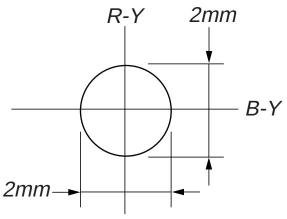


Fig. 6-1-14 (A).

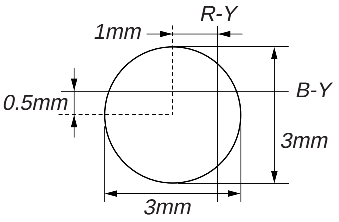


Fig. 6-1-14 (B).

Processing after Completing Adjustments

Order	Page	Address	Data	Procedure
1	6	01	00	Set the data, and press PAUSE button.
2	6	48	00	Set the data.
3	0	03	00	Set the data.

15. Steady Shot Check RadarW

Precautions on the Parts Replacement

There are two types of repair parts.

Type A: ENC03MA
Type B: ENC03MB

Replace the broken sensor with a same type sensor. If replace with other type parts, the image will vibrate up and down or left and right during hand-shake correction operations.

Precautions on Angular Velocity Sensor

The sensor incorporates a precision oscillator. Handle it with care as if it dropped, the balance of the oscillator will be disrupted and operations will not be performed properly.

Subject	Arbitrary
Measurement Point	Display data of page 1 (Note1)
Measuring Instrument	Adjustment remote commander
Specified Value	2B00 to 4B00

Note1: Displayed data of the adjustment remote commander.
1 : XX : XX
└── Display data

Note2: The data of page: 0, address: 10 must be “00”.

Switch setting:

1) STEADY SHOT (Menu setting) .... ON
2) ZOOM .... TELE end

Adjusting method:

Order	Page	Address	Data	Procedure
				Pitch sensor check (MA-421 board SE5402)
1	0	03	11	Set the data.
2	1			Check that the display data (Note1) satisfies the specified value. (Note3)
				Yaw sensor check (MA-421 board SE5401)
3	0	03	12	Set the data.
4	1			Check that the display data (Note1) satisfies the specified value. (Note3)
5	0	03	00	Set the data.
6				Move the camcorder, and check that the steady shot operations have been performed normally

Note3: Don’t move the camcoder.

1-4. COLOR ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENT

Note1: When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note2: Before performing the adjustments, check the data of page: 0, address: 10 is “00”. If not, set data: 00 to this address.

Note3: As the PANEL CLOSE switch is attached to the cabinet (R), this cabinet must be attached when performing adjustments.
If you perform the adjustments with cabinet (R) removed, set the following data.
1) Select page: 3, address: C4, and set data: 67.
2) Select page: 3, address: C5, and set data: 01.
Reset the data after completing adjustment.
1) Select page: 3, address: C4, and set data: 00.
2) Select page: 3, address: C5, and set data: 00.

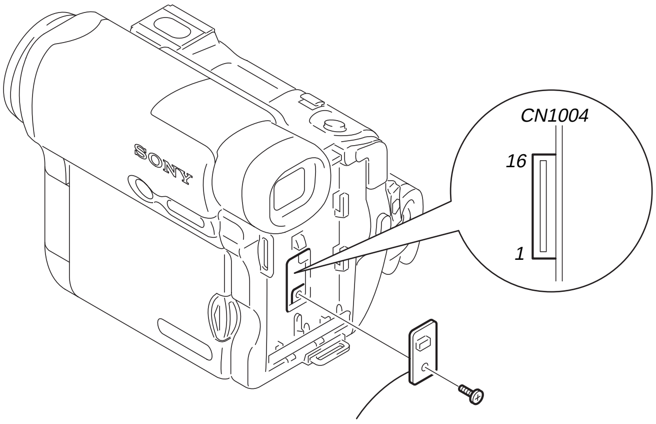
Note4: NTSC model: DCR-TRV22
PAL model: DCR-TRV22E

[Adjusting connector]

Most of the measuring points for adjusting the viewfinder system are concentrated in CN1004 of VC-312 board.
Connect the Measuring Instruments via the CPC-7 jig (J-6082-382-A).
The following table shows the Pin No. and signal name of CN1004.

Pin No.	Signal Name	Pin No.	Signal Name
1	FRRV	9	PANEL VG
2	RF MON	10	GND
3	RF IN/LANC JACK IN	11	EVF VCO
4	SWP	12	GND
5	PANEL COM	13	EVF VG
6	GND	14	EXT DA
7	H START	15	LANC SIG
8	GND	16	N.C.

Table 6-1-13.



Remove the CPC lid

Fig. 6-1-15.

1. VCO Adjustment (VA-118 board)

Set the VCO free-run frequency. If deviated, the EVF screen will be blurred.

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑪ of CN1004 of VC-312 board (EVF VCO)
Measuring Instrument	Frequency counter
Adjustment Page	C
Adjustment Address	36, 37
Specified Value	f = 15734 ± 30Hz (NTSC) f = 15625 ± 30Hz (PAL)

Note1: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	C	36		Change the data and set the VCO frequency (f) to the specified value.
3	C	36		Press PAUSE button.
4	C	36		Read the data, and this data is named D_{36}.
5				Convert D_{36} to decimal notation, and obtain D_{36}'. (Note2)
6				Calculate D_{37}' using following equations (Decimal calculation) [NTSC model] When $D_{36}' \leqq 231$ $D_{37}' = D_{36}'+24$ When $D_{36}' > 231$ $D_{37}' = 255$ [PAL model] When $D_{36}' \geqq 24$ $D_{37}' = D_{36}'-24$ When $D_{36}' < 24$ $D_{37}' = 0$
7				Convert D_{37}' to a hexadecimal number, and obtain D_{37}. (Note2)
8	C	37	D_{37}	Set the data, and press PAUSE button.
9	0	01	00	Set the data.

Note2: Refer to “Table 5-4-1. Hexadecimal-decimal Conversion Table”.

2. RGB AMP Adjustment (VA-118 board)

Set the D range of the RGB decoder used to drive the LCD to the specified value. If deviated, the LCD screen will become blackish or saturated (whitish).

Note: Do either of the automatic adjustment or the manual adjustment.

2-1. Automatic Adjustment RadarW

Mode	Camera
Subject	Arbitrary
Adjustment Page	C
Adjustment Address	39

Note: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	3	01	50	Set the data, and press PAUSE button.
3	3	02		Check that the data changes from “50” to “00”.
4	3	01	00	Set the data, and press PAUSE button.
5	0	01	00	Set the data.

2-2. Manual Adjustment

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑬ of CN1004 of VC-312 board (EVF VG)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	39
Specified Value	A = 7.20 ± 0.10V

Note: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	C	39		Change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
3	C	39		Press PAUSE button.
4	0	01	00	Set the data.

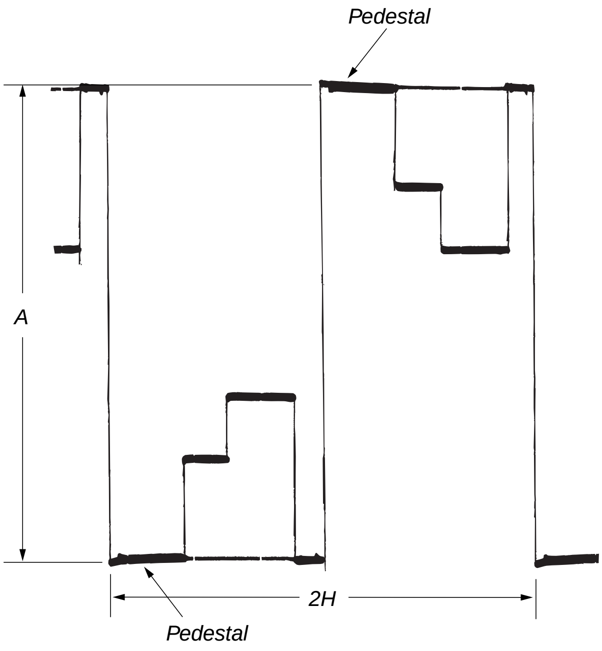


Fig. 6-1-16.

3. Contrast Adjustment (VA-118 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Note: Do either of the automatic adjustment or the manual adjustment.

3-1. Automatic Adjustment RadarW

Mode	Camera
Subject	Arbitrary
Adjustment Page	C
Adjustment Address	3E

Note: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	3	01	51	Set the data, and press PAUSE button.
3	3	02		Check that the data changes from “51” to “00”.
4	3	01	00	Set the data, and press PAUSE button.
5	0	01	00	Set the data.

3-2. Manual Adjustment

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑬ of CN1004 of VC-312 board (EVF VG)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	3E
Specified Value	A = 2.50 ± 0.10V

Note: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	C	3E		Change the data and set the voltage (A) between the 100 IRE and 0 IRE (pedestal) to the specified value. (The data should be “00” to “7F”.)
3	C	3E		Press PAUSE button.
4	0	01	00	Set the data.

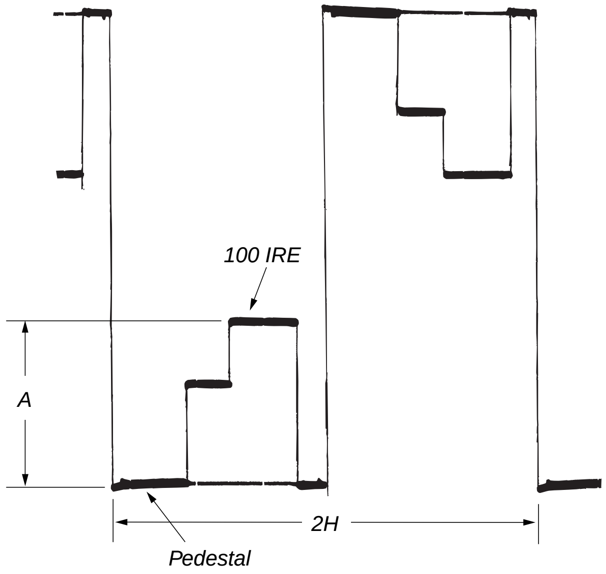


Fig. 6-1-17.

4. White Balance Adjustment (VA-118 board)

Correct the white balance.
If deviated, the reproduction of the EVF screen may degenerate.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on EVF screen
Measuring Instrument	
Adjustment Page	C
Adjustment Address	3C, 3D
Specified Value	The EVF screen should not be colored.

Note1: Check the white balance only when replacing the following parts.
If necessary, adjust them.
1. LCD panel
2. Light induction plate
3. IC4201

Note2: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	C	3C	80	Set the data, and press PAUSE button.
3	C	3D	74	Set the data, and press PAUSE button.
4	C	3D		Check that the EVF screen is not colored. If not colored, proceed to step 10.
5	C	3C		Change the data so that the EVF screen is not colored.
6	C	3C		Press PAUSE button.
7	C	3D		Change the data so that the EVF screen is not colored.
8	C	3D		Press PAUSE button.
9	C	3D		If the EVF screen is colored, repeat steps 5 to 9.
10	0	01	00	Set the data.

1-5. LCD SYSTEM ADJUSTMENT

Note1: The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note2: When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note3: Before performing the adjustments, check the data of page: 0, address: 10 is “00”. If not, set data: 00 to this address.

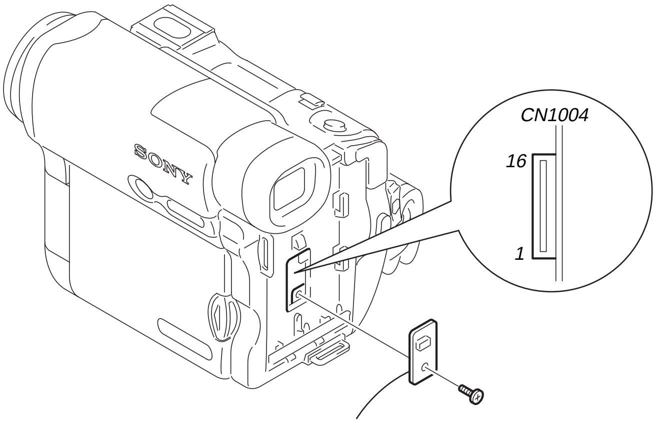
Note4: NTSC model: DCR-TRV22
PAL model: DCR-TRV22E

[Adjusting connector]

Most of the measuring points for adjusting the LCD system are concentrated in CN1004 of the VC-312 board. Connect the measuring instruments via the multi CPC-7 jig (J-6082-382-A). The following table shows the Pin No. and signal name of CN1004.

Pin No.	Signal Name	Pin No.	Signal Name
1	FRRV	9	PANEL VG
2	RF MON	10	GND
3	RF IN/LANC JACK IN	11	EVF VCO
4	SWP	12	GND
5	PANEL COM	13	EVF VG
6	GND	14	EXT DA
7	H START	15	LANC SIG
8	GND	16	N.C.

Table 6-1-14.



Remove the CPC lid

Fig. 6-1-18.

1. VCO Adjustment (PD-188 board)

Set the VCO free-run frequency. If deviated, the LCD screen will be blurred.

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ⑦ of CN1004 of VC-312 board (H START)
Measuring Instrument	Frequency counter
Adjustment Page	C
Adjustment Address	47, 48
Specified Value	f = 15734 ± 30Hz (NTSC) f = 15625 ± 30Hz (PAL)

Note1: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	C	47		Change the data and set the VCO frequency (f) to the specified value.
3	C	47		Press PAUSE button.
4	C	47		Read the data, and this data is named D_{47}.
5				Convert D_{47} to decimal notation, and obtain D_{47}'. (Note2)
6				Calculate D_{48}' using following equations (Decimal calculation) [NTSC model] When $D_{47}' \leqq 229$ $D_{48}' = D_{47}' + 26$ When $D_{47}' > 229$ $D_{48}' = 255$ [PAL model] When $D_{47}' \geqq 26$ $D_{48}' = D_{47}' - 26$ When $D_{47}' < 26$ $D_{48}' = 0$
7				Convert D_{48}' to a hexadecimal number, and obtain D_{48}. (Note2)
8	C	48	D_{48}	Set the data, and press PAUSE button.
9	0	01	00	Set the data.

Note2: Refer to “Table 5-4-1. Hexadecimal-decimal Conversion Table”.

2. PSIG GRAY Adjustment (PD-188 board)

Set the PSIG signal level to an appropriate level.

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ⑤ of CN1004 of VC-312 board (PANEL COM)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	4C
Specified Value	A = 5.00 ± 0.10V

Note: The data of page: 0, address: 10 must be "00".

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	C	4C		Change the data and set the PSIG signal level (A) to the specified value. (The data should be "00" to "7F".)
3	C	4C		Press PAUSE button.
4	0	01	00	Set the data.

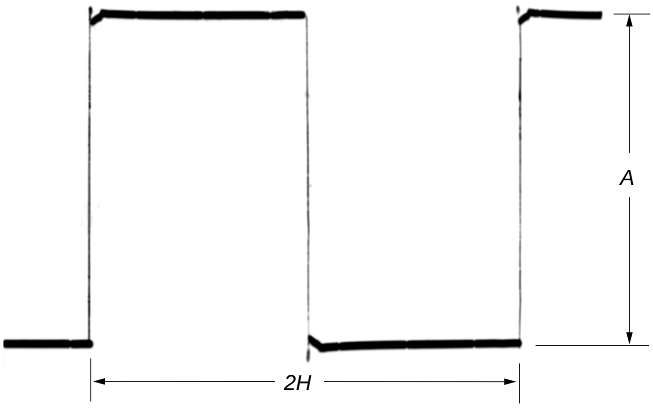


Fig. 6-1-18.

3. RGB AMP Adjustment (PD-188 board)

Set the D range of the RGB decoder used to drive the LCD to the specified value. If deviated, the LCD screen will become blackish or saturated (whitish).

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ⑨ of CN1004 of VC-312 board (PANEL VG)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	4A
Specified Value	A = 7.58 ± 0.05V (NTSC) A = 7.46 ± 0.05V (PAL)

Note: The data of page: 0, address: 10 must be "00".

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	C	4A		Change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
3	C	4A		Press PAUSE button.
4	0	01	00	Set the data.

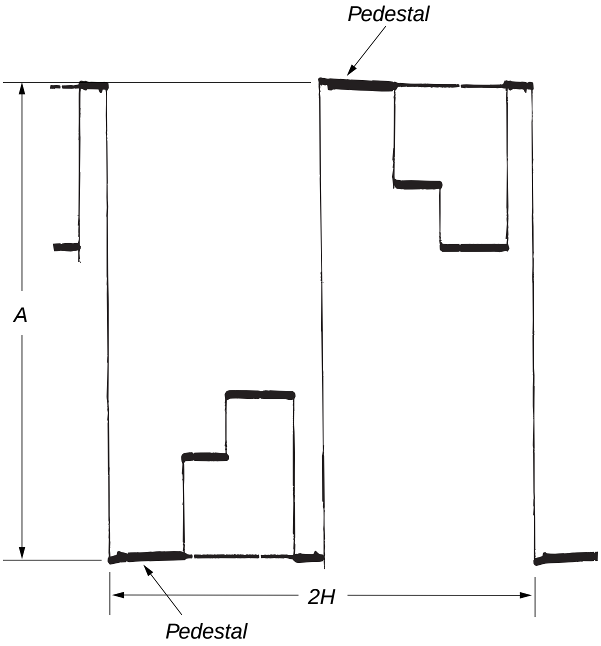


Fig. 6-1-19.

4. Black Limit Adjustment (PD-188 board)

Set the video signal level for driving the LCD driver to an appropriate level.

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ⑤ of CN1004 of VC-312 board (PANEL COM)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	4B
Specified Value	A = 8.30 ± 0.08V

Note: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	3	C4	61	Set the data.
3	3	C5		Set the following data. 5B (NTSC), 53 (PAL)
4	C	4B		Change the data and set the PSIG signal amplitude (A) to the specified value. (The data should be “00” to “0F”)
5	C	4B		Press PAUSE button.
6	3	C4	00	Set the data.
7	3	C5	00	Set the data.
8	0	01	00	Set the data.
9				Check that the specified value of “RGB AMP Adjustment” is satisfied. If not, perform “RGB AMP Adjustment”.

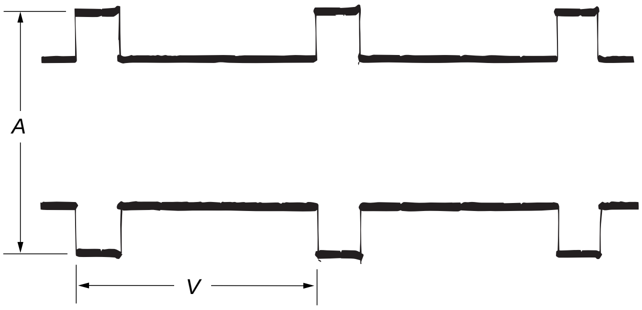


Fig. 6-1-20.

5. Contrast Adjustment (PD-188 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ⑨ of CN1004 of VC-312 board (PANEL VG)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	4F
Specified Value	A = 2.54 ± 0.05V (NTSC) A = 2.58 ± 0.05V (PAL)

Note: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	C	4F		Change the data and set the voltage (A) between the 100 IRE and 0 IRE (pedestal) to the specified value. (The data should be “00” to “7F”.)
3	C	4F		Press PAUSE button.
4	0	01	00	Set the data.

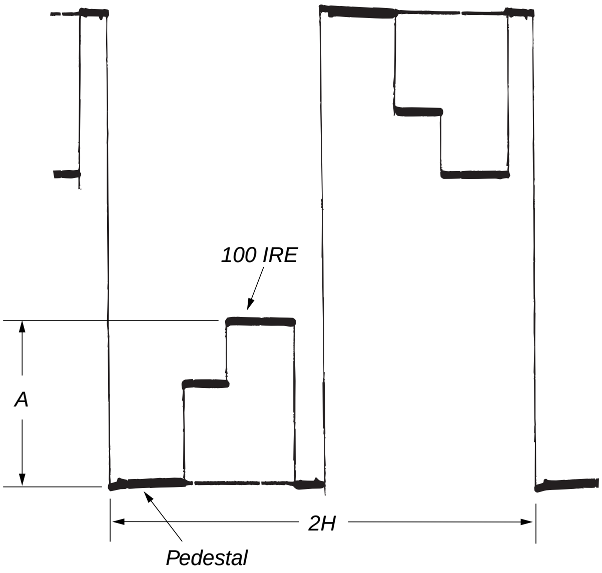


Fig. 6-1-21.

6. Center Level Adjustment (PD-188 board)

Set the video signal center level of LCD panel to an appropriate level.

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ⑨ of CN1004 of VC-312 board (PANEL VG)
Measuring Instrument	Digital voltmeter
Adjustment Page	C
Adjustment Address	50
Specified Value	A = 7.00 ± 0.03Vdc

Note: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	C	50		Change the data and set the DC voltage (A) to the specified value. (The data should be “00” to “7F”.)
3	C	50		Press PAUSE button.
4	0	01	00	Set the data.

7. V COM Adjustment (PD-188 board)

Set the DC bias of the common electrode drive signal of LCD to the specified value.

If deviated, the LCD display will move, producing flicker and conspicuous vertical lines.

Mode	VTR stop
Signal	No signal
Measurement Point	Check on LCD display
Measuring Instrument	
Adjustment Page	C
Adjustment Address	49
Specified Value	The brightness difference between the section A and section B is minimum.

Note1: This adjustment should be carried out upon completion of the following adjustments.
RGB AMP Adjustment
Black Limit Adjustment
Contrast Adjustment
Center Level Adjustment

Note2: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	C	49		Change the data so that the brightness of the section A and that of the section B is equal. (Note3)
3	C	49		Subtract 2 from the data.(Note3)
4	C	49		Press PAUSE button.
5	0	01	00	Set the data.

Note3: The data should be “00” to “3F”.

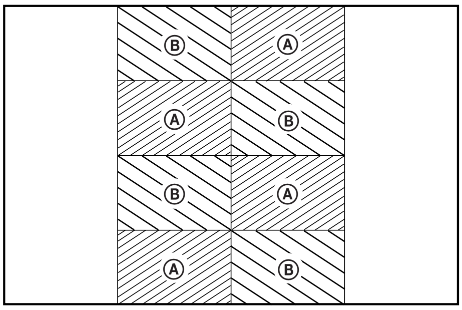


Fig. 6-1-24.

8. White Balance Adjustment (PD-188 board)

Correct the white balance.
If deviated, the reproduction of the LCD screen may degenerate.

Mode	VTR stop
Signal	No signal
Measurement Point	Check on LCD screen
Measuring Instrument	
Adjustment Page	C
Adjustment Address	4D, 4E
Specified Value	The LCD screen should not be colored.

Note1: Check the white balance only when replacing the following parts. If necessary, adjust them.
1. LCD panel
2. Light induction plate
3. IC6001

Note2: The data of page: 0, address: 10 must be “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	C	4D	7A	Set the data, and press PAUSE button.
3	C	4E	5F	Set the data, and press PAUSE button.
4	C	4E		Check that the LCD screen is not colored. If not colored, proceed to step 10.
5	C	4D		Change the data so that the LCD screen is not colored.
6	C	4D		Press PAUSE button.
7	C	4E		Change the data so that the LCD screen is not colored.
8	C	4E		Press PAUSE button.
9	C	4E		If the LCD screen is colored, repeat steps 5 to 9.
10	0	01	00	Set the data.

6-2. MECHANISM SECTION ADJUSTMENT

On the mechanism section adjustment

For detail of mechanism section adjustments, checks, and replacement of mechanism parts, refer to the separate volume "DV MECHANICAL ADJUSTMENT MANUAL Ⅶ Z Mechanism".

Note: Before performing the adjustments, check the data of page: 0, address: 10 is "00". If not, set data: 00 to this address.

2-1. HOW TO ENTER RECORD MODE WITHOUT CASSETTE

1) Connect the adjustment remote commander to the LANC jack.
2) Turn the HOLD switch of the adjustment remote commander to the ON position.
3) Close the cassette compartment without the cassette.
4) Select page: 3, address: 01, and set data: 0C, and press the PAUSE button of the adjustment remote commander.
   (The mechanism enters the record mode automatically.)
   Note: The function buttons becomes inoperable.
5) To quit the record mode, select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander. (Whenever you want to quit the record mode, be sure to quit following this procedure.)

2-2. HOW TO ENTER PLAYBACK MODE WITHOUT CASSETTE

1) Connect the adjustment remote commander to the LANC jack.
2) Turn the HOLD switch of the adjustment remote commander to the ON position.
3) Close the cassette compartment without the cassette.
4) Select page: 3, address: 01, and set data: 0B, and press the PAUSE button of the adjustment remote commander.
   (The mechanism enters the playback mode automatically.)
   Note: The function buttons becomes inoperable.
5) To quit the playback mode, select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander. (Whenever you want to quit the playback mode, be sure to quit following this procedure.)

2-3. TAPE PATH ADJUSTMENT

1. Preparation for Adjustment

1) Clean the tape running side (tape guide, drum, capstan shaft, pinch roller, etc.).
2) Connect the adjustment remote commander to the LANC jack.
3) Turn the HOLD switch of the adjustment remote commander to the ON position.
4) Connect an oscilloscope to VC-312 board CN1004 via the CPC-7 jig (J-6082-382-A).
   Channel 1: VC-312 board, CN1004 Pin ② (Note)
   External trigger: VC-312 board, CN1004 Pin ④
   Note: Connect a 75Ω resistor between Pins ② of CN1004 and ⑥ (GND).
5) Playback the alignment tape for tracking. (XH2-1)
6) Select page: 3, address: 33, and set data: 08.
7) Select page: 3, address: 26, set data: 31, and press PAUSE button.
8) Check that the oscilloscope RF waveform is normal at the entrance and exit.If not normal, adjust according to the separate volume "DV MECHANICAL ADJUSTMENT MANUAL Ⅶ Z Mechanism".

CN1004 of VC-312 board

Pin No.	Signal Name	Pin No.	Signal Name
1	FRRV	9	PANEL VG
2	RF MON	10	GND
3	RF IN/LANC JACK IN	11	EVF VCO
4	SWP	12	GND
5	PANEL COM	13	EVF VG
6	GND	14	EXT DA
7	H START	15	LANC SIG
8	GND	16	N.C.

Table 6-2-1.

2. Processing after Completing Operations:

1) Connect the adjustment remote commander to the LANC jack and set the HOLD switch to the ON position.
2) Select page: 3, address: 26, and set data: 00, and press PAUSE button.
3) Select page: 3, address: 33, and set data: 00.

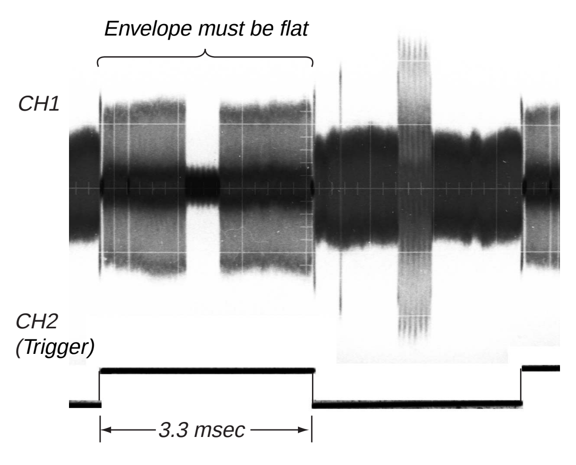


Fig. 6-2-1.

6-3. VIDEO SECTION ADJUSTMENT

3-1. PREPARATIONS BEFORE ADJUSTMENTS

Use the following measuring instruments for video section adjustments.

3-1-1. Equipment to Required

1) TV monitor
2) Oscilloscope (dual-phenomenon, band width above 30 MHz with delay mode) (Unless specified otherwise, use a 10 : 1 probe.)
3) Frequency counter
4) Pattern generator with video output terminal
5) Digital voltmeter
6) Audio generator
7) Audio level meter
8) Audio distortion meter
9) Audio attenuator
10) Regulated power supply
11) Alignment tapes
    - Tracking standard (XH2-1)
        Parts code: 8-967-997-01
    - SW/OL standard (XH2-3)
        Parts code: 8-967-997-11
    - Audio operation check for NTSC (XH5-3)
        Parts code: 8-967-997-51
    - System operation check for NTSC (XH5-5)
        Parts code: 8-967-997-61
    - Audio operation check for PAL (XH5-3P)
        Parts code: 8-967-997-55
    - System operation check for PAL (XH5-5P)
        Parts code: 8-967-997-66
12) Adjustment remote commander (J-6082-053-B)
13) CPC-7 jig (J-6082-382-A)
14) Extension cable (100P 0.5mm) (J-6082-352-A)
    For extension between the VA-118 board (CN4004) and the VC-312 board (CN1002)

3-1-2. Precautions on Adjusting

Note1: Before performing the adjustments, check the data of page: 0, address: 10 is “00”. If not, set data: 00 to this address.

1) The adjustments of this unit are performed in the VTR mode or camera mode.
   To set to the VTR mode, set the power switch to “VCR” (or “PLAYER”) or set the “Forced VTR Power ON mode” using the adjustment remote commander (Note2).
   To set to the Camera mode, set the power switch to “CAMERA” or set the “Forced Camera Power ON mode” using the adjustment remote commander (Note3).
   After completing adjustments, be sure to exit the “Forced VTR Power ON Mode” or “Forced Camera Power ON Mode”. (Note5)
2) The front panel block (Microphone unit., MA-421 board) must be assembled for connecting the adjustment remote commander. To remove it, disconnect the following connector.
   VA-118 board CN4002 (36P, 0.5mm)
3) Cabinet (R) (CK-129board, LCD block) need not be connected. But removing the cabinet (R) (removing the VA-118 board CN4005) means removing the lithium 3V power supply (CK-129 board, BT5201) , data such as date, time, user-set menus will be lost. After completing adjustments, reset these data.
   But, the self-diagnosis data and the data on history of use (total drum rotation time etc.) will be kept even if the cabinet (R) has been removed. (Refer to “6-4.Service Mode” for the data on the history use and the self-diagnosis data.)
   To remove the cabinet (R), disconnect the following connectors.
   VA-118 board CN4003 (20P, 0.8mm)
   VA-118 board CN4005 (16P, 0.5mm)
4) The EVF block (LB-085 board) is need not be connected. To remove it, disconnect the following connector.
   VA-118 board CN4201 (20P, 0.5mm)
5) The intelligent accessory shoe is need not be connected. To remove it, disconnect the following connector.
   VA-118 board CN4001 (10P, 0.5mm)
6) To open the VA-118 board, use the following extension cable between the VA-118 board CN4004 and VC-312 board CN1002.
   J-6082-352-A (100P, 0.5mm)
7) The lens block (CD-430 board) is need not be connected. To remove it, disconnect the following connectors.
   VC-312 board CN1401 (14P, 0.5mm)
   VC-312 board CN1201 (24P, 0.5mm)
8) By setting the “Forced VTR Power ON mode”, the video section can be operate even if the control switch block (PS-CX4000) has been removed. When removing it, disconnect the following connector.
   VC-312 board CN1003 (12P, 0.5mm)
9) The memory stick connector is need not be connected. To remove it, disconnect the following connectors.
   VC-312 board CN1006 (8P, 0.5mm)

Note2: Setting the “Forced VTR Power ON” mode (VTR mode)
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 02, and press the PAUSE button of the adjustment remote commander.

The above procedure will enable the VTR power to be turned on with the control switch block (FK-CX4000 block) removed.
After completing adjustments, be sure to exit the “Forced Power ON mode”.

Note3: Setting the “Forced Camera Power ON” mode (Camera mode)
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjustment remote commander.

The above procedure will enable the camera power to be turned on with the control switch block (FK-CX4000 block) removed.
After completing adjustments, be sure to exit the “Forced Power ON mode”.

Note4: Setting the “Forced Memory Power ON” mode (Memory mode)
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 05, and press the PAUSE button of the adjustment remote commander.

The above procedure will enable the memory power to be turned on with the control switch block (FK-CX4000 block) removed.
After completing adjustments, be sure to exit the “Forced Power ON mode”.

Note5: Exiting the “Forced Power ON” mode
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
3) Select page: 0, address: 01, and set data: 00.

3-1-3. Adjusting Connectors

The measuring point of the playback RF signal is CN1004 of VC-312 board. Connect the measuring instruments via the CPC-7 jig (J-6082-382-A). Refer to “MECHANISM SECTION ADJUSTMENT” for the measuring method. The following table lists the pin numbers and signal names of CN1004.

Pin No.	Signal Name	Pin No.	Signal Name
1	FRRV	9	PANEL VG
2	RF MON	10	GND
3	RF IN/LANC JACK IN	11	EVF VCO
4	SWP	12	GND
5	PANEL COM	13	EVF VG
6	GND	14	EXT DA
7	H START	15	LANC SIG
8	GND	16	N.C.

Table 6-3-1.

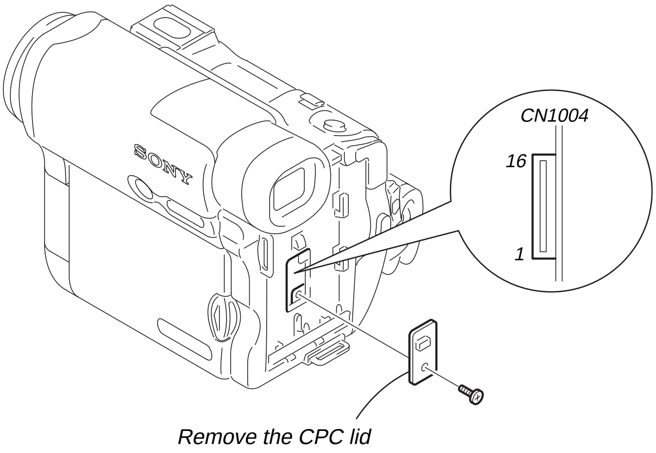

CN1004
16
1
Remove the CPC lid

Fig. 6-3-1.

3-1-4. Connecting the Equipment

Connect the measuring instruments as shown in Fig. 6-3-2, and perform the adjustments.

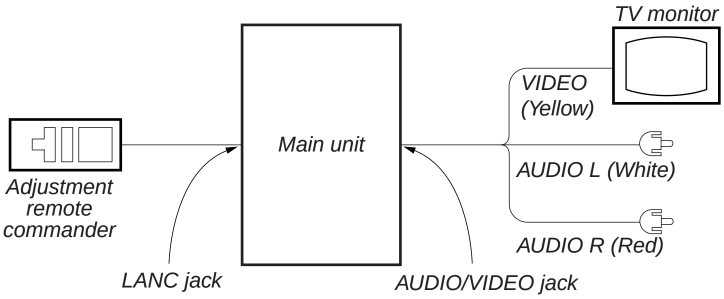

TV monitor
VIDEO
(Yellow)
Main unit
Adjustment
remote
commander
AUDIO L (White)
AUDIO R (Red)
LANC jack
AUDIO/VIDEO jack

Fig. 6-3-2.

3-1-5. Alignment Tapes

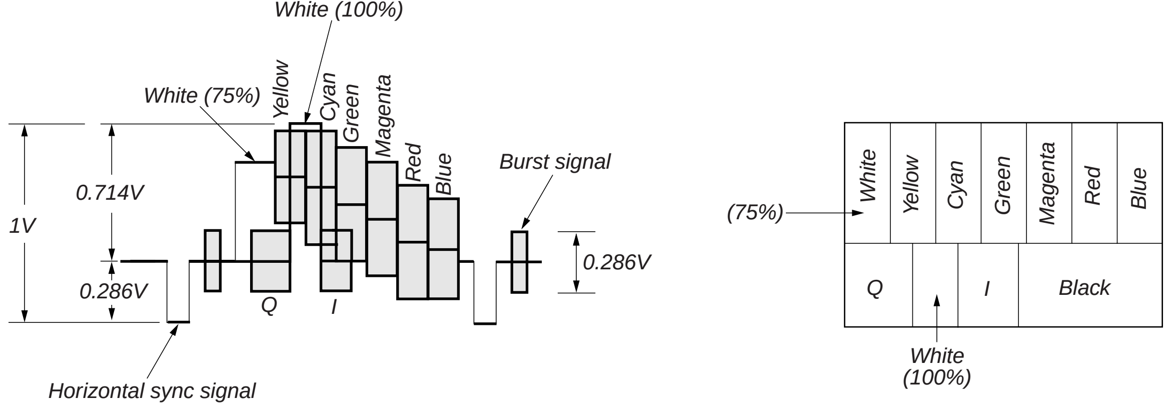
Use the alignment tapes shown in the following table.
Use tapes specified in the signal column of each adjustment.

Name	Use
Tracking standard (XH2-1)	Tape path adjustment
SW/OL standard (XH2-3)	Switching position adjustment
Audio operation check (XH5-3 (NTSC), XH5-3P (PAL))	Audio system adjustment
System operation check (XH5-5 (NTSC), XH5-5P (PAL))	Operation check

Fig. 6-3-3 shows the 75% color bar signals recorded on the alignment tape for Audio Operation Check.

Note: Measure with video terminal (Terminated at 75 Ω)

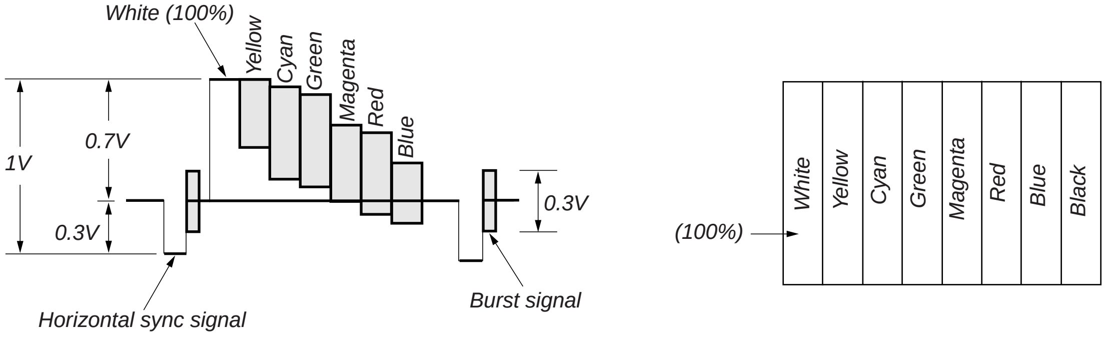
For NTSC model



White (100%)
White (75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst signal
0.714V
1V
0.286V
Q
I
0.286V
Horizontal sync signal
(75%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Q
I
Black
White (100%)

Color bar signal waveform *Color bar pattern*

For PAL model



White (100%)
Yellow
Cyan
Green
Magenta
Red
Blue
0.7V
1V
0.3V
0.3V
Horizontal sync signal
Burst signal
(100%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Black

Color bar signal waveform *Color bar pattern*

Fig. 6-3-3. Color bar signal of alignment tapes

3-1-6. Input/Output Level and Impedance

Video input/output
Special stereo mini jack
Video signal: 1 Vp-p, 75 Ω unbalanced, sync negative

S video input/output
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 Ω unbalanced, sync negative
Chrominance signal: 0.286 Vp-p, 75 Ω unbalanced (NTSC)
: 0.300 Vp-p, 75 Ω unbalanced (PAL)

Audio input/output
Special stereo mini jack
Input level: 327mV
Input impedance: More than 47kΩ
Output level: 327 mV (at load impedance 47 kΩ)
Output impedance: Below 2.2 kΩ

3-2. SYSTEM CONTROL SYSTEM ADJUSTMENT

1. Initialization of 8, A, B, C, D, E, F, 18, 1B, 1C, 1F Page Data

If the 8, A, B, C, D, E, F, 18, 1B, 1C, 1F page data is erased due to some reason, perform “1-2. INITIALIZATION OF 8, A, B, C, D, E, F, 18, 1B, 1C, 1F PAGE DATA” of “5-1. CAMERA SECTION ADJUSTMENT”

Note: When reading or writing the 18, 1B, 1C, 1F page data, select page: 0, address: 10, and set data: 01, then select 8, B, C or F page. The 18, 1B, 1C or 1F page can be chosen by this data setting.

After reading or writing, reset the data of page: 0, address: 10 to “00”.

2. Touch Panel Adjustment

Adjust the calibration of the touch panel.

Mode	VTR stop
Signal	Arbitrary
Adjustment Page	A
Adjustment Address	90 to 93

Note1: Perform this adjustment with observing the screen from the front.
Note2: The data of page: 0, address: 10 must be “00”.

Adjusting method:

1) Select page: 7, address: 05, and set data: 01.
2) Using a stylus, push the center of “X” indicated in the part A.
3) Using a stylus, push the center of “X” indicated in the part B.
4) Using a stylus, push the center of “X” indicated in the part C.
5) Select page: 7, address: 05, and check that the data is “00”.

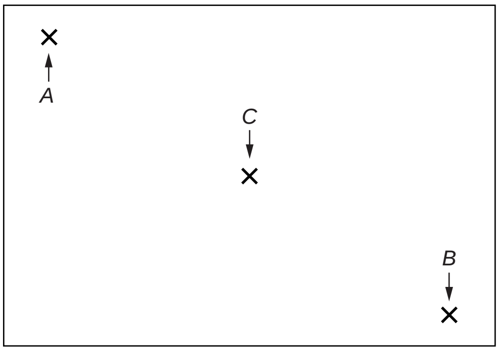


Fig. 6-3-4.

3. Serial No. Input

3-1. Company ID Input

Write the company ID in the EEPROM (nonvolatile memory).

Page	C
Address	E0, E1, E2, E3, E4

Note: The data of page: 0, address: 10 must be “00”.

Input method:

1) Select page: 0, address: 01, and set data: 01.
2) Input the following data to page: C, addresses: E0 to E4.
   Note: Press the PAUSE button of the adjustment remote commander each time to set the data.

Address	Data
E0	08
E1	00
E2	46
E3	01
E4	02

3) Select page: 0, address: 01, and set data: 00.

3-2. Serial No. Input

Write the serial No. and model code in the EEPROM (nonvolatile memory). Convert the serial No. on the name plate from decimal to hexadecimal, and write in the EEPROM.

Page	C
Address	E5, E6, E7

Note: The data of page: 0, address: 10 must be “00”.

Input method:

1) Select page: 0, address: 01, and set data: 01.
2) Read the serial No. on the name plate, and take it as D_1.
   Example: If the serial No. is 77881.
   $D_1 = 77881$
   Note: Use six digits of the low rank when a serial No. is more than seven digits.
3) Obtain D_2 and H_1 corresponding to D_1 from Table 6-3-2.
   Example: If D_1 is “77881”.
   $D_2 = D_1 - 65536 = 12345$
   $H_1 = FE$

D_1 (Decimal)	D_2 (Decimal)	H_1 (Hexadecimal) (Service model code)
000001 to 065535	D_1	FE
065536 to 131071	$D_1 - 65536$	FE
131072 to 196607	$D_1 - 131072$	FE

Table 6-3-2.

4) Input H1 to page: C, address: E5. (Model code input)
   Example: If H_1 is “FE”.
   Select page: C, address: E5, set data: FE, and press the PAUSE button.
5) Obtain the maximum decimal not exceeding D_2 from Table 6-3-3, and take this as D_3.
   Example: If D_2 is “12345”.
   $D_3 = 12288$
6) Obtain the hexadecimal corresponding to D_3 from Table 6-3-3, and take this as H_3.
   Example: If D_3 is “12288”.
   $H_3 = 3000$
7) Obtain the difference D_4 between D_2 and D_3. (Decimal calculation, $0 \leqq D_4 \leqq 255$)
   $D_4 = D_2 - D_3$
   Example: If D_2 is “12345” and D_3 is “12288”.
   $D_4 = 12345 - 12288 = 57$
8) Convert D_4 to hexadecimal, and take this as H_4.
   (Refer to “Hexadecimal-decimal conversion table” in “6-4. Service Mode”.)
   Example: If D_4 is “57”.
   $H_4 = 39$
9) Input the upper 2 digits of H_3 to page: C, address: E6.
   Example: If H_3 is “3000”.
   Select page: C, address: E6, set data: 30, and press the PAUSE button.
10) Input H_4 to page: C, address: E7.
   Example: If H_4 is “39”.
   Select page: C, address: E7, set data: 39, and press the PAUSE button.
11) Select page: 0, address: 01, and set data: 00.

Decimal (D_3)	Hexa-decimal (H_3)	Decimal (D_3)	Hexa-decimal (H_3)	Decimal (D_3)	Hexa-decimal (H_3)	Decimal (D_3)	Hexa-decimal (H_3)	Decimal (D_3)	Hexa-decimal (H_3)	Decimal (D_3)	Hexa-decimal (H_3)	Decimal (D_3)	Hexa-decimal (H_3)	Decimal (D_3)	Hexa-decimal (H_3)
0	0000	8192	2000	16384	4000	24576	6000	32768	8000	40960	A000	49152	C000	57344	E000
256	0100	8448	2100	16640	4100	24832	6100	33024	8100	41216	A100	49408	C100	57600	E100
512	0200	8704	2200	16896	4200	25088	6200	33280	8200	41472	A200	49664	C200	57856	E200
768	0300	8960	2300	17152	4300	25344	6300	33536	8300	41728	A300	49920	C300	58112	E300
1024	0400	9216	2400	17408	4400	25600	6400	33792	8400	41984	A400	50176	C400	58368	E400
1280	0500	9472	2500	17664	4500	25856	6500	34048	8500	42240	A500	50432	C500	58624	E500
1536	0600	9728	2600	17920	4600	26112	6600	34304	8600	42496	A600	50688	C600	58880	E600
1792	0700	9984	2700	18176	4700	26368	6700	34560	8700	42752	A700	50944	C700	59136	E700
2048	0800	10240	2800	18432	4800	26624	6800	34816	8800	43008	A800	51200	C800	59392	E800
2304	0900	10496	2900	18688	4900	26880	6900	35072	8900	43264	A900	51456	C900	59648	E900
2560	0A00	10752	2A00	18944	4A00	27136	6A00	35328	8A00	43520	AA00	51712	CA00	59904	EA00
2816	0B00	11008	2B00	19200	4B00	27392	6B00	35584	8B00	43776	AB00	51968	CB00	60160	EB00
3072	0C00	11264	2C00	19456	4C00	27648	6C00	35840	8C00	44032	AC00	52224	CC00	60416	EC00
3328	0D00	11520	2D00	19712	4D00	27904	6D00	36096	8D00	44288	AD00	52480	CD00	60672	ED00
3584	0E00	11776	2E00	19968	4E00	28160	6E00	36352	8E00	44544	AE00	52736	CE00	60928	EE00
3840	0F00	12032	2F00	20224	4F00	28416	6F00	36608	8F00	44800	AF00	52992	CF00	61184	EF00
4096	1000	12288	3000	20480	5000	28672	7000	36864	9000	45056	B000	53248	D000	61440	F000
4352	1100	12544	3100	20736	5100	28928	7100	37120	9100	45312	B100	53504	D100	61696	F100
4608	1200	12800	3200	20992	5200	29184	7200	37376	9200	45568	B200	53760	D200	61952	F200
4864	1300	13056	3300	21248	5300	29440	7300	37632	9300	45824	B300	54016	D300	62208	F300
5120	1400	13312	3400	21504	5400	29696	7400	37888	9400	46080	B400	54272	D400	62464	F400
5376	1500	13568	3500	21760	5500	29952	7500	38144	9500	46336	B500	54528	D500	62720	F500
5632	1600	13824	3600	22016	5600	30208	7600	38400	9600	46592	B600	54784	D600	62976	F600
5888	1700	14080	3700	22272	5700	30464	7700	38656	9700	46848	B700	55040	D700	63232	F700
6144	1800	14336	3800	22528	5800	30720	7800	38912	9800	47104	B800	55296	D800	63488	F800
6400	1900	14592	3900	22784	5900	30976	7900	39168	9900	47360	B900	55552	D900	63744	F900
6656	1A00	14848	3A00	23040	5A00	31232	7A00	39424	9A00	47616	BA00	55808	DA00	64000	FA00
6912	1B00	15104	3B00	23296	5B00	31488	7B00	39680	9B00	47872	BB00	56064	DB00	64256	FB00
7168	1C00	15360	3C00	23552	5C00	31744	7C00	39936	9C00	48128	BC00	56320	DC00	64512	FC00
7424	1D00	15616	3D00	23808	5D00	32000	7D00	40192	9D00	48384	BD00	56576	DD00	64768	FD00
7680	1E00	15872	3E00	24064	5E00	32256	7E00	40448	9E00	48640	BE00	56832	DE00	65024	FE00
7936	1F00	16128	3F00	24320	5F00	32512	7F00	40704	9F00	48896	BF00	57088	DF00	65280	FF00

Table 6-3-3.

3-3. SERVO AND RF SYSTEM ADJUSTMENT

Before perform the servo and RF system adjustments, check that the specified value of "36 MHz Origin Oscillation Adjustment" of "CAMERA SYSTEM ADJUSTMENT" is satisfied.
And check that the data of page: 0, address: 10 is "00". If not, set data: 00 to this address.

Adjusting Procedure:

1. CAP FG duty adjustment
2. Switching position adjustment
3. Error rate check

1. Cap FG Duty Adjustment (VC-312 Board) RadarW

Set the Cap FG signal duty cycle to 50% to establish an appropriate capstan servo. If deviated, the uneven rotation of capstan and noise can occur.

Measurement Point	Display data of page: 3, address: 02, 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	16
Specified Value	Data of page: 3, address: 02 is "00". Data of page: 3, address: 03 is "00".

Note1: The data of page: 0, address: 10 must be "00".

Adjusting method:

Order	Page	Address	Data	Procedure
1				Close the cassette compartment without inserting a cassette.
2	0	01	01	Set the data.
3	3	01	1B	Set the data, and press PAUSE button.
4	3	02		Check that the data changes in the following order. "1B" → "2B" → "00"
5	3	03		Check that the data is "00". (Note2)
6	0	01	00	Set the data.

Note2: If the data is "01", adjustment has errors or the mechanism deck is defective.

2. Switching Position Adjustment (VC-312 Board) RadarW

To obtain normal playback waveform output during the playback mode, adjust the switching position.

Mode	VTR playback
Signal	SW/OL reference tape (XH2-3)
Measurement Point	Display data of page: 3, address: 02, 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	10, 11, 12, 13
Specified Value	Data of page: 3, address: 02 is "00". Data of page: 3, address: 03 is "00".

Note1: The data of page: 0, address: 10 must be "00".

Adjusting method:

Order	Page	Address	Data	Procedure
1				Insert the SW/OL reference tape and enter the VTR STOP mode.
2	0	01	01	Set the data.
3	C	10	EE	Set the data, and press PAUSE button.
4	3	21		Check that the data is "02". (Note2)
5	3	01	0D	Set the data, and press PAUSE button.
6	3	02		Check that the data changes to "00".
7	3	03		Check that the data is "00". (Note3)
8	0	01	00	Set the data.

Note2: If the data of page: 3, address: 21 is "72", the tape top being played. After playing the tape for 1 to 2 seconds, stop it, perform step 5 and higher.
If the data of page: 3, address: 21 is "62", the tape end being played. After rewinding the tape, perform step 5 and higher.

Note3: If bit 0 of the data is "1", the EVEN channel is defective. If bit 1 is "1", the ODD channel is defective. Contents of the defect is written into page: C, addresses: 10 and 12. See the following table. (For the bit values, refer to "5-4. SERVICE MODE", "4-3. 3. Bit value discrimination".) If bit 3 of the data is "1", the tape end being played, so rewind the tape and perform the adjustment again.

When the EVEN channel is defective

Data of page: C, address: 10	Contents of defect
EE	Writing into EEPROM (IC2602) is defective
E8	Adjustment data is out of range
E7	No data is returned from IC2301

When the ODD channel is defective

Data of page: C, address: 12	Contents of defect
EE	Writing into EEPROM (IC2602) is defective
E8	Adjustment data is out of range
E7	No data is returned from IC2301

3. Error Rate Check

3-1. Preparations before adjustments

Mode	Camera recording (LP mode)
Subject	Moving object
Audio signal	400Hz, –66 dBs signal: MIC jack left and right. (Refer to Fig. 6-3-5.)

Adjusting method:

Order	Page	Address	Data	Procedure
1				Set REC MODE (Note1) to LP.
2				Record the camera signal for three minutes.

Note1: TAPE SET of the menu settings.

3-2. Error Rate Check RadarW

Mode	Playback
Signal	Recorded signal at “Preparations before adjustments”
Measurement Point	Monitor TV, Headphone
Measuring Instrument	
Adjustment Page	1C (Note2)
Adjustment Address	B3 to C8
Specified Value	Playback picture and sound are normal.

Note2: When reading or writing the 1C page data, select page: 0, address: 10, and set data: 01, then select C page. The 1C page can be chosen by this data setting.
After reading or writing, reset the data of page: 0, address: 10 to “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1				Playback the recorded signal at “Preparations before adjustments”
2	0	01	01	Set the data.
3	0	10	00	Set the data.
4	3	01	08	Set the data, and press PAUSE button.
5				Confirm that the playback picture and sound are normal. If not, proceed to step 10. (Note3)
6	3	01	52	Set the data, and press PAUSE button.
7	3	00		Change the address.
8	3	01		Check that the data is “00”.
9	0	01	00	Set the data.

Note3: When playback picture or sound is abnormal, check the use tape, clean the tape running surface, and perform re-adjustment.

Processing after Completing Adjustments

Order	Page	Address	Data	Procedure
1				Set REC MODE to SP.

3-4. VIDEO SYSTEM ADJUSTMENTS

Note1: Before perform the servo and RF system adjustments, check that the specified value of “36 MHz Origin Oscillation Adjustment” of “CAMERA SYSTEM ADJUSTMENT” is satisfied.
And check that the data of page: 0, address: 10 is “00”. If not, set data: 00 to this address.

Note2: NTSC model: DCR-TRV22
PAL model: DCR-TRV22E

1. S VIDEO OUT Y Level Adjustment (VC-312 Board)

Mode	Camera
Subject	Arbitrary
Measurement Point	Y signal terminal of S VIDEO jack (75Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	25
Specified Value	A = 1000 ± 14mV

Note: The data of page: 0, address: 10 must be “00”.

Switch setting:
DEMO MODE (Menu setting) .... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	3	0C	02	Set the data, and press PAUSE button.
3	C	25		Change the data and set the Y signal level (A) to the specified value.
4	C	25		Press PAUSE button.
5	3	0C	00	Set the data, and press PAUSE button.
6	0	01	00	Set the data.

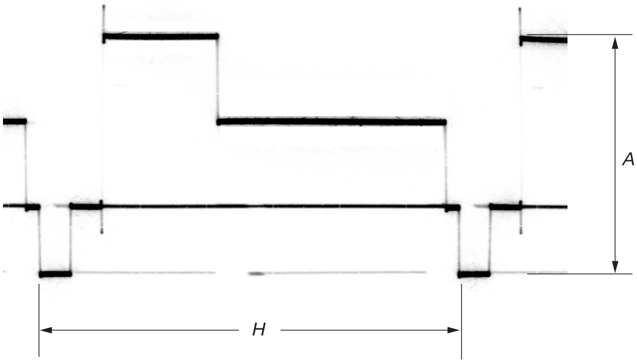


Fig. 6-3-5.

2. S VIDEO OUT Chroma Level Adjustment (VC-312 Board)

Mode	Camera
Subject	Arbitrary
Measurement Point	Chroma signal terminal of S VIDEO jack (75Ω terminated) External trigger: Y signal terminal of S VIDEO jack
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	26, 27
Specified Value	Cr level: A = 714 ± 14mV (NTSC) A = 700 ± 14mV (PAL) Cb level: B = 714 ± 14mV (NTSC) B = 700 ± 14mV (PAL) Burst level: C = 286 ± 6mV (NTSC) C = 300 ± 6mV (PAL)

Note: The data of page: 0, address: 10 must be “00”.

Switch setting:
DEMO MODE (Menu setting) .... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	Set the data.
2	3	0C	02	Set the data, and press PAUSE button.
3	C	26		Change the data and set the Cr signal level (A) to the specified value.
4	C	26		Press PAUSE button.
5	C	27		Change the data and set the Cb signal level (B) to the specified value.
6	C	7		Press PAUSE button.
7				Check that the burst signal level (C) is satisfied the specified value.
8	3	0C	00	Set the data, and press PAUSE button.
9	0	01	00	Set the data.

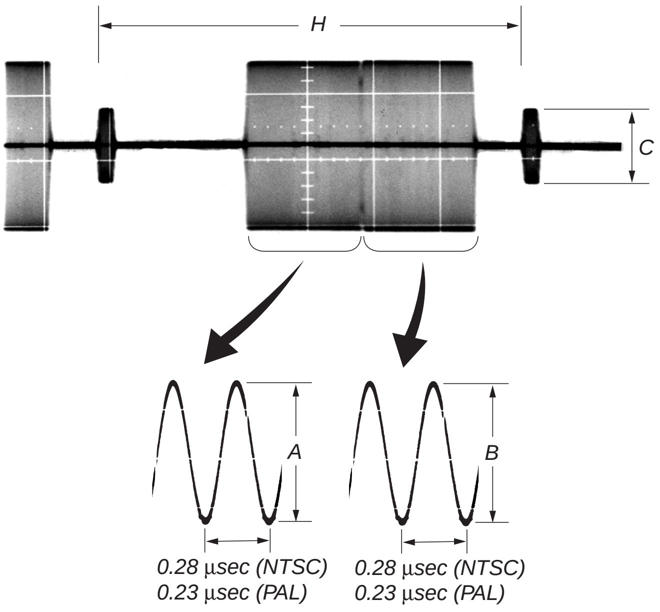


Fig. 6-3-6.

3. VIDEO OUT Y, Chroma Level Check (VC-312 Board)

Mode	Camera
Subject	Arbitrary
Measurement Point	Video terminal of AUDIO VIDEO jack (75Ω terminated)
Measuring Instrument	Oscilloscope
Specified Value	Sync level: A = 286 ± 18mV (NTSC) A = 300 ± 18mV (PAL) Burst level: B = 286 ± 18mV (NTSC) B = 300 ± 18mV (PAL)

Note: The data of page: 0, address: 10 must be "00".

Switch setting:

DEMO MODE (Menu setting) .... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	3	0C	02	Set the data, and press PAUSE button.
2				Check that the sync signal level (A) satisfies the specified value.
3				Check that the burst signal level (B) satisfies the specified value.
4	3	0C	00	Set the data, and press PAUSE button.

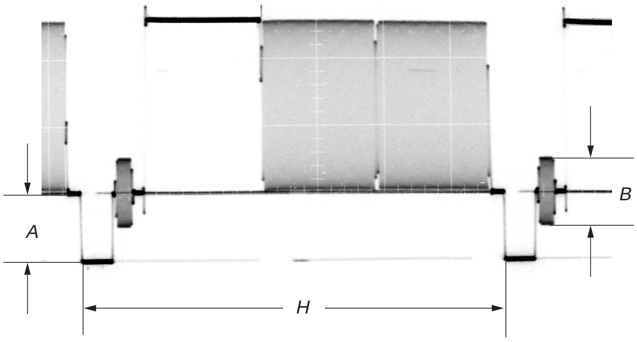


Fig. 6-3-7.

3-5. AUDIO SYSTEM ADJUSTMENTS

[Connection of Audio System Measuring Devices]

Connect the audio system measuring devices as shown in Fig. 6-3-8.

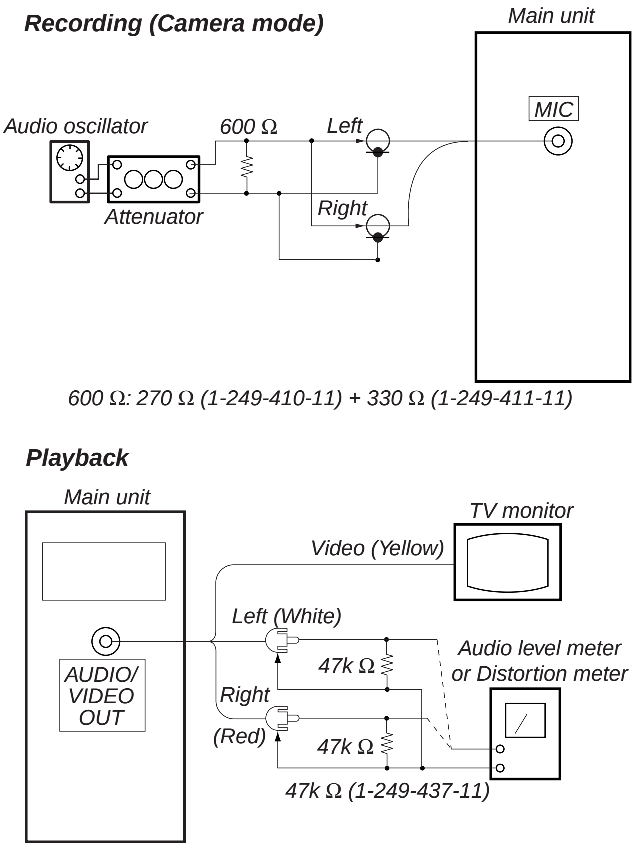

Recording (Camera mode)
Main unit
MIC
Audio oscillator
600 Ω
Left
Attenuator
Right
600 Ω: 270 Ω (1-249-410-11) + 330 Ω (1-249-411-11)
Playback
Main unit
TV monitor
Video (Yellow)
Left (White)
AUDIO/
VIDEO
OUT
47k Ω
Audio level meter
or Distortion meter
Right
(Red)
47k Ω
47k Ω (1-249-437-11)

Fig. 6-3-8.

1. Playback Level Check

Mode	VTR playback
Signal	Alignment tape: For audio operation check (XH5-3 (NTSC)) (XH5-3P (PAL))
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack
Measuring Instrument	Audio level meter and frequency counter
Specified Value	32 kHz mode: 1 kHz, +3.0 ± 2.0dBs 48 kHz mode: 1 kHz, +3.0 ± 2.0dBs 44.1 kHz mode: The 7.35kHz signal level during EMP OFF is +2.0 ± 2.0dBs. The 7.35kHz signal level during EMP ON is –6 ± 2 dB from the signal level during EMP OFF.

Checking Method:

1) Check that the playback signal level is the specified value.

2. Overall Level Characteristics Check

Mode	Camera recording and playback
Signal	400Hz, –66 dBs signal: MIC jack left and right
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack
Measuring Instrument	Audio level meter
Specified Value	–7.5 ± 3.0dBs

Checking Method:

1) Input the 400Hz, –66dBs signal in the MIC jack.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the 400Hz signal level is the specified value.

3. Overall Distortion Check

Mode	Camera recording and playback
Signal	400Hz, –66dBs signal: MIC jack left and right
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack
Measuring Instrument	Audio distortion meter
Specified Value	Below 0.4% (200Hz to 6kHz BPF ON)

Checking Method:

1) Input the 400Hz, –66dBs signal in the MIC jack.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the distortion is the specified value.

4. Overall Noise Level Check

Mode	Camera recording and playback
Signal	No signal: Insert a shorting plug in the MIC jack
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack
Measuring Instrument	Audio level meter
Specified Value	Below –45dBs (IHF-A filter ON, 20kHz LPF ON)

Checking Method:

1) Insert a shorting plug in the MIC jack.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the noise level is the specified value.

5. Overall Separation Check

Mode	Camera recording and playback
Signal	400Hz, –66dBs signal: MIC jack <right> [left] (Connect the MIC jack <left> [right] to GND)
Measurement Point	Audio <left> [right] terminal of AUDIO VIDEO jack
Measuring Instrument	Audio level meter
Specified Value	Below –40dBs (IHF-A filter ON)

< > : Left channel check
[ ] : Right channel check

Checking Method:

1) Input the 400Hz, –66dBs signal in the <right> [left] terminal of the MIC jack only.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the signal level of the audio <left> [right] terminal is the specified value.

6-4. SERVICE MODE

4-1. ADJUSTMENT REMOTE COMMANDER

The adjustment remote commander is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjustment remote commander performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the adjustment remote commander

1) Connect the adjustment remote commander to the LANC terminal.
2) Set the HOLD switch of the adjustment remote commander to "HOLD" (SERVICE position). If it has been properly connected, the LCD on the adjustment remote commander will display as shown in Fig. 6-4-1.

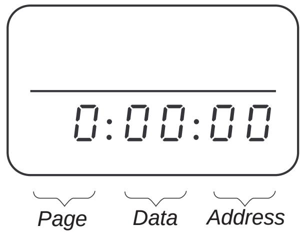


Fig. 6-4-1

3) Operate the adjustment remote commander as follows.
   - Changing the page
     The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH– button is pressed. There are altogether 20 pages, from 0 to F, 18, 1B, 1C, 1F. (Note)

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD Display	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
Decimal notation conversion value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

   - Changing the address
     The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. There are altogether 256 addresses, from 00 to FF.
   - Changing the data (Data setting)
     The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. There are altogether 256 data, from 00 to FF.
   - Writing the adjustment data
     The PAUSE button must be pressed to write the adjustment data (8, A, B, C, D, E, F, 18, 1B, 1C, 1F page) in the nonvolatile memory. (The new adjusting data will not be recorded in the nonvolatile memory if this step is not performed.)
4) After completing all adjustments, turn off the main power supply once.

Note: When reading or writing the 18, 1B, 1C, 1F page data, select page: 0, address: 10, and set data: 01, then select 8, B, C or F page. The 18, 1B, 1C or 1F page can be chosen by this data setting.
After reading or writing, reset the data of page: 0, address: 10 to "00".

2. Precautions upon using the adjustment remote commander

Mishandling of the adjustment remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

4-2. DATA PROCESS

The calculation of the DDS display and the adjustment remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Indicates the hexadecimal-decimal conversion table.

Hexadecimal-decimal Conversion Table

Lower digit of hexadecimal / Upper digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (A)	B (b)	C (c)	② D (d)	E (E)	F (F)
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
① B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

Note : The characters shown in the parenthesis ( ) shown the display on the adjustment remote commander.

(Example) If the DDS display or the adjustment remote commander shows BD (bd);
Because the upper digit of the adjustment number is B (b), and the lower digit is D (d), the meeting point "189" of ① and ② in the above table is the corresponding decimal number.

Table. 6-4-1.

4-3. SERVICE MODE

Note: Before performing the adjustments, check the data of page: 0, address: 10 is “00”. If not, set data: 00 to this address.

1. Setting the Test Mode

Page D	Address 10

Data	Function
00	Normal
01	Forced camera power ON
02	Forced VTR power ON
03	Forced camera + VTR power ON
05	Forced memory power ON

- Before setting the data , select page: 0, address: 01, and set data: 01.
- For page D, the data set is recorded in the non-volatile memory by pressing the PAUSE button of the adjustment remote commander. In this case, take note that the test mode will not be exited even when the main power is turned off.
- After completing adjustments/repairs, be sure to return the data of this address to 00, and press the PAUSE button of the adjustment remote commander.
  Select page: 0, address: 01, and set data: 00.

2. Emergence Memory Address

Page C	Address F4 to FF

Address	Contents
F4	EMG code when first error occurs
F6	Upper: MSW code when shift starts when first error occurs Lower: MSW code when first error occurs
F7	Lower: MSW code to be moved when first error occurs
F8	EMG code when second error occurs
FA	Upper: MSW code when shift starts when second error occurs Lower: MSW code when second error occurs
FB	Lower: MSW code to be moved when second error occurs
FC	EMG code when last error occurs
FE	Upper: MSW code when shift starts when last error occurs Lower: MSW code when last error occurs
FF	Lower: MSW code to be moved when last error occurs

When no error occurs in this unit, data “00” is written in the above addresses (F4 to FF). when first error occurs in the unit, the data corresponding to the error is written in the first emergency address (F4 to F7). In the same way, when the second error occurs, the data corresponding to the error is written in the second emergency address (F8 to FB). Finally, when the last error occurs, the data corresponding to the error is written in the last emergency address (FC to FF).

Note: After completing adjustments, be sure to initialize the data of addresses F4 to FF to “00”.

Initializing method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 01, set data: 37, and press the PAUSE button.
3) Select page: 0, address: 01, and set data: 00.

2-1. EMG Code (Emergency Code)

Codes corresponding to the errors which occur are written in addresses F4, F8 and FC. The type of error indicated by the code are shown in the following table.

Code	Emergency Type
00	No error
10	Loading motor emergency during loading
11	Loading motor emergency during unloading
22	T reel emergency during normal rotation
23	S reel emergency during normal rotation
24	T reel emergency (Short circuit between S reel terminal and T reel terminal)
30	FG emergency at the start up of the capstan
40	FG emergency at the start up of the drum
42	FG emergency during normal rotation of the drum

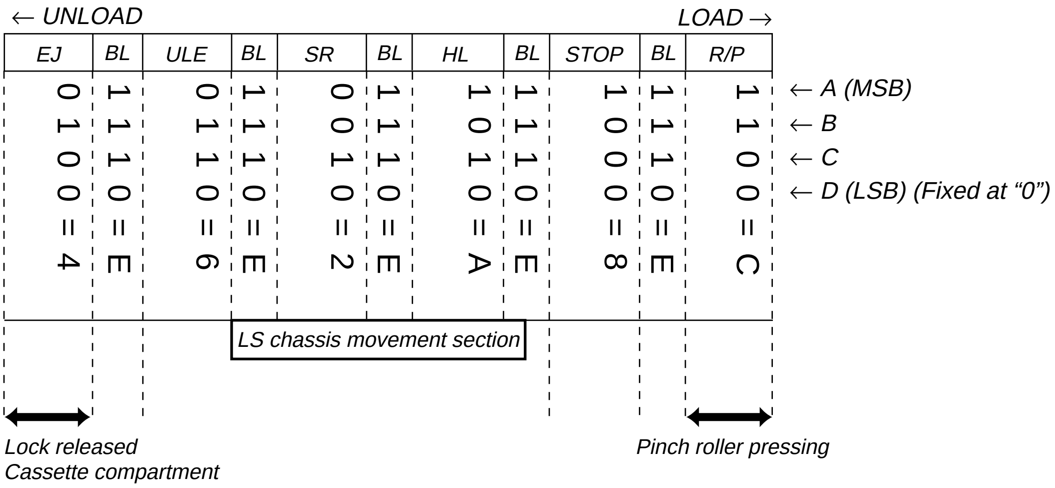
2-2. MSW Code

MSW when errors occur:
Information on MSW (mode SW) when errors occur

MSW when movement starts:
Information on MSW when movements starts when the mechanism position is moved (When the L motor is moved)

MSW of target of movement:
Information on target MSW of movement when the mechanism position is moved

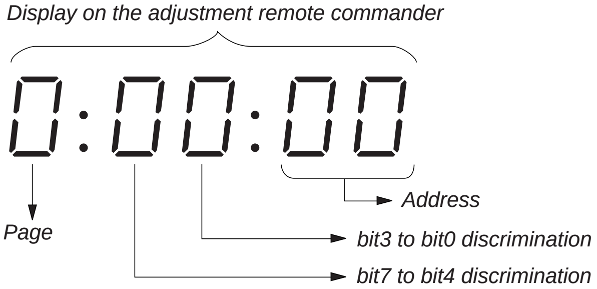
Mechanical Position


← UNLOAD
LOAD →
EJ
BL
ULE
BL
SR
BL
HL
BL
STOP
BL
R/P
0100 = 4
1110 = E
0110 = 6
1110 = E
0010 = 2
1110 = E
1010 = A
1110 = E
1000 = 8
1110 = E
1100 = C
← A (MSB)
← B
← C
← D (LSB) (Fixed at "0")
LS chassis movement section
Lock released
Cassette compartment
Pinch roller pressing

Position	Code	Contents
EJ	4	Position at which the cassette component lock is released, at the farthest unload side mechanically at which the mechanism can move no further in the UNLOAD direction.
BL	E	BLANK code, at the boundary between codes.
ULE	6	EJECT completion position. when the cassette is ejected, the mechanism will stop at this position. Cassette IN standby. The guide will start protruding out as the mechanism moves towards the LOAD position.
SR	2	Position at which it is possible to release the S ratchet.
HL	A	Guide loading are performed here.
STOP	8	Stop position in the loading state. The pinch roller separates, the tension regulator returns, and the brake is imposed on both reels.
R/P	C	PB, REC, CUE, REVIEW, PAUSE, FF, REW positions. When pinch roller is pressed, and the tension regulator is ON, the mechanism is operating at this position in modes in which normal images are shown.
NULL	0	Code not existing in the MD. Default value.
	F	Status before finding any mechanism position.

3. Bit value discrimination

Bit values must be discriminated using the display data of the adjustment remote commander for following items. Use the table below to discriminate if the bit value is “1” or “0”.


Display on the adjustment remote commander
0:00:00
Address
Page
bit3 to bit0 discrimination
bit7 to bit4 discrimination

Display on the adjustment remote commander	Bit values			
	bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
Ⓐ 8	1	0	0	0
9	1	0	0	1
A (A)	1	0	1	0
B (b)	1	0	1	1
C (c)	1	1	0	0
D (d)	1	1	0	1
Ⓑ E (E)	1	1	1	0
F (F)	1	1	1	1

Example: If “8E” is displayed on the adjustment remote commander, the bit values for bit7 to bit4 are shown in the Ⓐ column, and the bit values for bit3 to bit0 are shown in the Ⓑ column.

4. Switch check (1)

Page 7	Address 0E

Note: The data of page: 0, address: 10 must be “00”.

Bit	Function	When bit value=1	When bit value=0
0	POWER SW (XVTR MODE SW) (FK-CX4000 block S001)	ON (VCR)	OFF
1	POWER SW (XCAM MODE SW) (FK-CX4000 block S001)	ON (CAMERA)	OFF
2			
3	EJECT SW (XEJECT SW) (FK-CX4000 block S072)	ON	OFF
4	CC DOWN SW (Mechanism chassis)	ON (DOWN)	OFF (UP)
5	PHOTO SW (PHOTO FREEZE) SW (FK-CX4000 block S071)	ON	OFF
6	POWER SW (XPHOTO STBY SW) (FK-CX4000 block S001)	ON (MEMORY)	OFF
7			

Using method:

1) Select page: 7, address: 0E.
2) By discriminating the bit value of display data, the state of the switch can be discriminated.

5. Switch check (2)

Page 7	Address 0C

Note: The data of page: 0, address: 10 must be “00”.

Bit	Function	When bit value=1	When bit value=0
1	MIC jack (MA-421 board J5401)	Used	Not used
2	AUDIO/VIDEO jack (JK-242 board J5301)	Used	Not used
3	S VIDEO jack (MA-421 board J5404)	Used	Not used

Using method:

1) Select page: 7, address: 0C.
2) By discriminating the bit value of display data, the state of the switch can be discriminated.

6. Switch check (3)

Page 3	Address 61

Note: The data of page: 0, address: 10 must be “00”.

Bit	Function	When bit value=1	When bit value=0
6	HEADPHONS jack (MA-421 board J5405)	Used	Not used

Using method:

1) Select page: 3, address: 61.
2) By discriminating the bit value of display data, the state of the switch can be discriminated.

7. Switch check (4)

Page 2	Address 60 to 63, 67

Note: The data of page: 0, address: 10 must be “00”.

Using method:

1) Select page: 2, address: 60 to 63, 67.
2) By discriminating the display data, the pressed key can be discriminated.

Address	Data	
	00 (00 to 0C)	EB (D8 to FF)
60 (KEY AD0) (IC4101 (59))	PHOTO (PHOTO REC) (FK-CX4000 block, S071)	No key input
61 (KEY AD1) (IC4101 (60))	BACK LIGHT (CF-CX4000 block, S101)	No key input
62 (KEY AD2) (IC4101 (61))	PANEL REVERSE (FP-626 flexible, S101)	PANEL NORMAL (FP-626 flexible, S101)
63 (KEY AD3) (IC4101 (65))	PANEL CLOSE (CK-129 board, S5207)	PANEL OPEN (CK-129 board, S5207)
67 (KEY AD7) (IC4101 (69))	START/STOP (FK-CX4000 block, S002)	No key input

8. LED check

Page 7	Address 07	Bit5

Note: The data of page: 0, address: 10 must be “00”.

Using method:

1) Select page: 7, address: 07, and set data: 20. (Bit5=1)
2) Check that LED (Recording lamp) is lit.
3) Select page: 7, address: 07, and set data: 00. (Bit5=0).

9. Record of Use check (1)

Page 7	Address A7 to A9

Note1: When replacing the drum assembly or the mechanism deck, initialize the data of address: A7 to A9.
Note2: This data will be kept even if the lithium battery (CK-129 board BT5201 of the cabinet (R) assembly) is removed.
Note3: The data of page: 0, address: 10 must be “00”.

Address	Function		Remarks
A7	Drum rotation counted time (BCD code)	Hour (H)	100000th place digit and 10000th place digit of counted time
A8		Hour (M)	1000th place digit and 100th place digit of counted time
A9		Hour (L)	10th place digit and 1st place digit of counted time

Using method:
1) The record of use data is displayed at addresses: A7 to A9.

Initializing method:
1) Select page: 7, address: 00, and set data: 71.
2) Select page: 7, address: 01, set data: 71 and press the PAUSE button.
3) Check that the data of page: 7, address: 02 is “00”.

10. Record of Use check (2)

Page 7	Address C8 to CD

Note1: This data will be kept even if the lithium battery (CK-129 board BT5201 of the cabinet (R) assembly) is removed.
Note2: The data of page: 0, address: 10 must be “00”.

Address	Function		Remarks
C8	User initial power on date (BCD code)	Year	After setting the clock, set the date of power on next
C9		Month	
CA		Day	
CB	Final condensation occurrence data (BCD code)	Year	
CC		Month	
CD		Day	

Using method:
1) The record of use data is displayed at addresses: C8 to CD.

11. Record of Self-diagnosis check

Page 7	Address B0 to C6

Note1: This data will be kept even if the lithium battery (CK-129 board BT5201 of the cabinet (R) assembly) is removed.
Note2: The data of page: 0, address: 10 must be “00”.

Address	Self-diagnosis code
B0	“Repaired by” code (Occurred 1st time) *1
B1	“Block function” code (Occurred 1st time)
B2	“Detailed” code (Occurred 1st time)
B4	“Repaired by” code (Occurred 2nd time) *1
B5	“Block function” code (Occurred 2nd time)
B6	“Detailed” code (Occurred 2nd time)
B8	“Repaired by” code (Occurred 3rd time) *1
B9	“Block function” code (Occurred 3rd time)
BA	“Detailed” code (Occurred 3rd time)
BC	“Repaired by” code (Occurred 4th time) *1
BD	“Block function” code (Occurred 4th time)
BE	“Detailed” code (Occurred 4th time)
C0	“Repaired by” code (Occurred 5th time) *1
C1	“Block function” code (Occurred 5th time)
C2	“Detailed” code (Occurred 5th time)
C4	“Repaired by” code (Occurred the last time) *1
C5	“Block function” code (Occurred the last time)
C6	“Detailed” code (Occurred the last time)

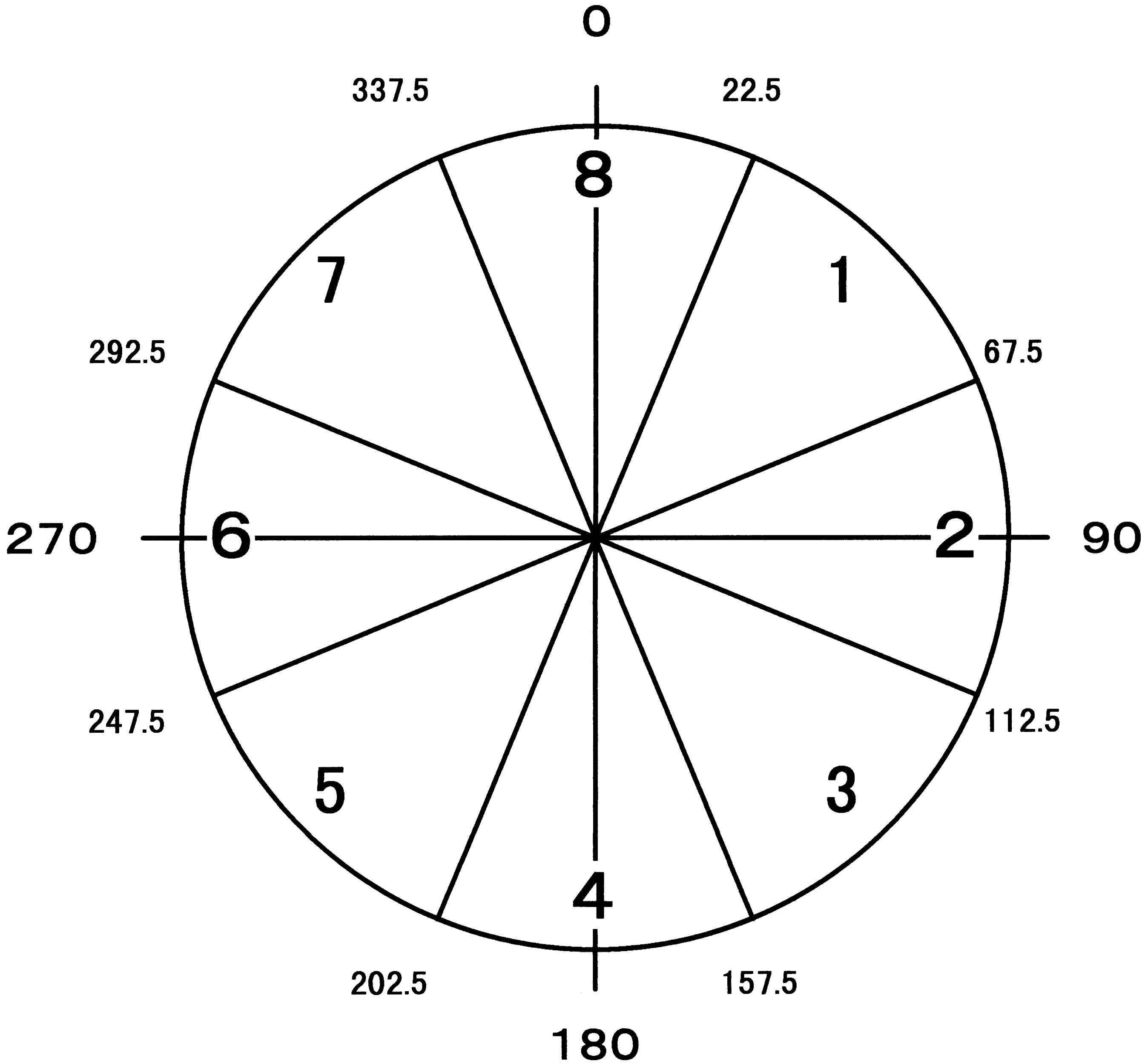
*1: “01” → “C”, “03” → “E”

Using method:

1) The past self-diagnosis codes are displayed at addresses: BC to C6.
Refer to “SELF-DIAGNOSIS FUNCTION” for detail of the self-diagnosis code except for the code being written in the following table.

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
E	20	00	Data on A page or D page are rewritten.	Make data on A page and D page correct value.

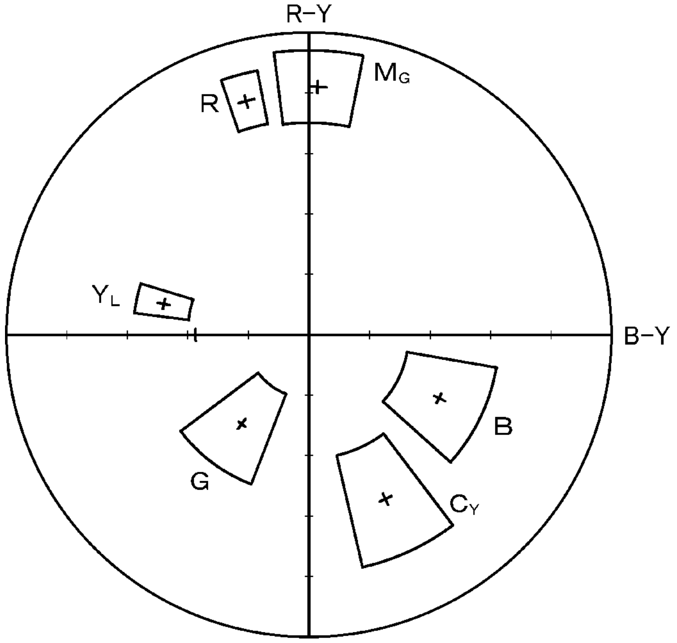
〈OPTICAL AXIS FRAME〉


0
337.5
22.5
8
7
1
292.5
67.5
270
6
2
90
247.5
112.5
5
3
4
202.5
157.5
180

Take a copy of OPTICAL AXIS FRAME with a clear sheet for use.

〈FOR CAMERA COLOR REPRODUCTION ADJUSTMENT〉

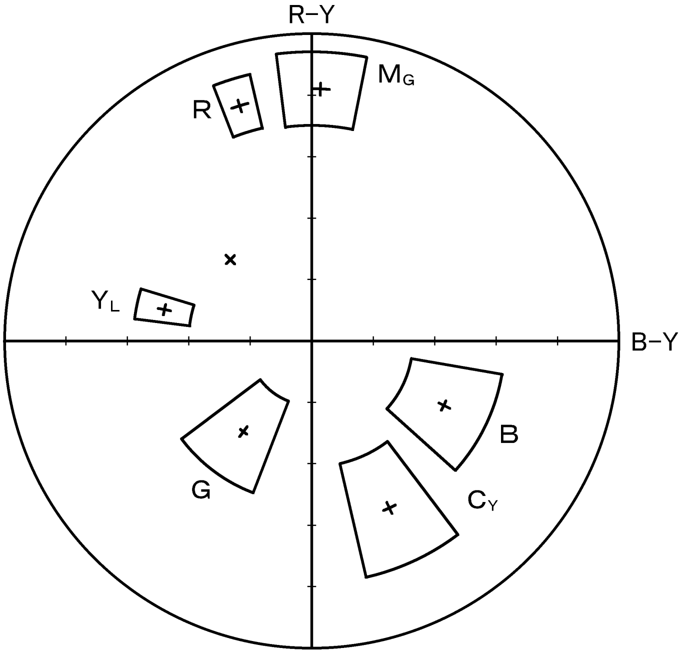
For NTSC model


R−Y
MG
R
YL
B−Y
B
G
CY

DCR-TRV22

Take a copy of CAMERA COLOR REPRODUCTION FRAME with a clear sheet for use.

For PAL model


R−Y
MG
R
YL
B−Y
B
G
CY

DCR-TRV22E

Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2003.02	Official Release	—	—

DCR-TRV22/TRV22E

RMT-814

SONY

LEVEL 2

SERVICE MANUAL

Ver 1.2 2003. 09

US Model
Canadian Model
Korea Model
Brazilian Model
DCR-TRV22
AEP Model
UK Model
North European Model
East European Model
Chinese Model
Australian Model
DCR-TRV22E
E Model
Hong Kong Model
Tourist Model
DCR-TRV22/TRV22E

SUPPLEMENT-1

File this supplement-1 with the Service Manual.

Subject : Addition of supplied parts

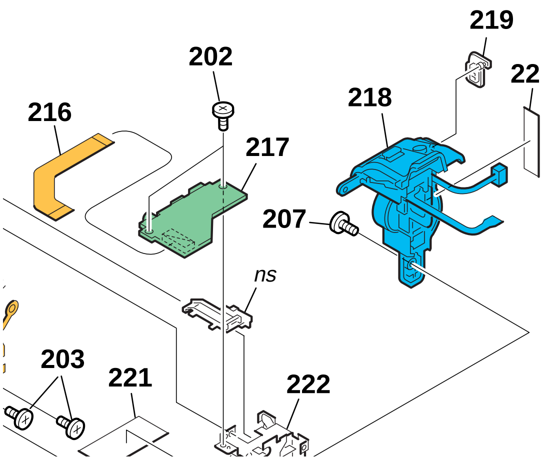
SECTION 5 REPAIR PARTS LIST

5-1. EXPLODED VIEWS

: Added portion.

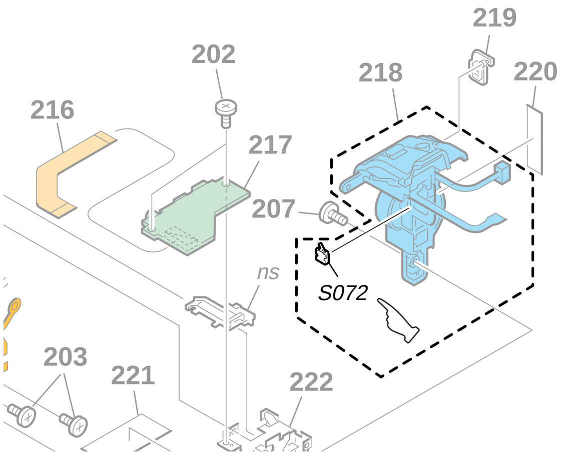
<table>
<tr><th>Page</th><th>Before Change</th><th>After Change</th></tr>
<tr><td>5-7</td><td>

5-1-5. CABINET L SECTION


219
202
220
216
218
217
207
ns
203
221
222

Ref. No.	Part No.	Description
——	——————	——————————————

</td><td>


219
202
218
220
216
217
207
ns
S072
203
221
222

Ref. No.	Part No.	Description
S072	1-786-179-41	SWITCH, PUSH (1KEY) (OPEN/⏏EJECT⏌)

</td></tr>
</table>

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Sony EMCS Co.

DCR-TRV22/TRV22E

RMT-814

SONY®

LEVEL 2

SERVICE MANUAL

Ver 1.1 2003. 06

US Model
Canadian Model
Korea Model
Brazilian Model
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North European Model
East European Model
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Australian Model
DCR-TRV22E
E Model
Hong Kong Model
Tourist Model
DCR-TRV22/TRV22E

CORRECTION-1

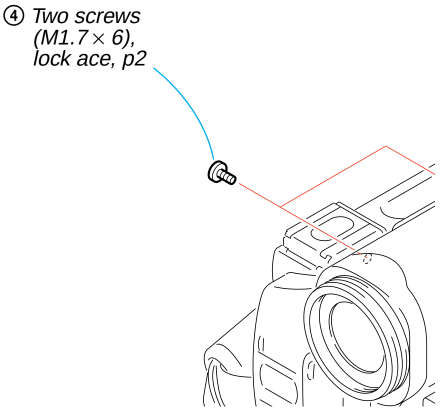
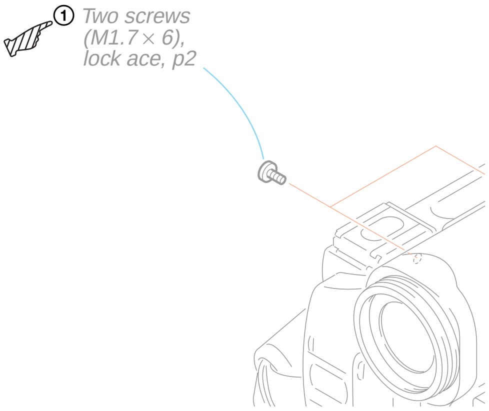
Correct your service manual as shown below.

Change of the parts

2. DISASSEMBLY

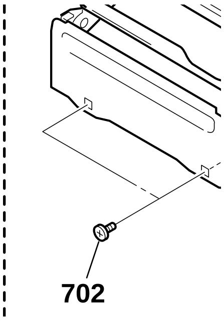
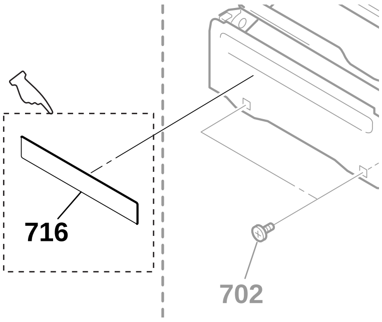
2-2. CABINET (R) COVER (39E) ASSEMBLY

✎ : Changed portion.

Page	INCORRECT	CORRECT
2-4	 ④ Two screws (M1.7 × 6), lock ace, p2	 ① Two screws (M1.7 × 6), lock ace, p2

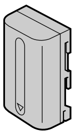
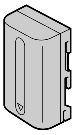
5. REPAIR PARTS LIST

☞ : Added portion.

Page	INCORRECT	CORRECT
5-11	Ref. No. Part No. Description **5-1-9. OVERALL (MECHANISM DECK-Z100)**  714 3-079-741-02 SCREW,DRUM FIXING 715 3-748-682-01 WASHER, T ——— ———— ———— M901 A-7048-981-A DRUM (DEH-30A-R) (SERVICE)	Ref. No. Part No. Description **5-1-9. OVERALL (MECHANISM DECK-Z100)**  714 3-079-741-02 SCREW,DRUM FIXING 715 3-748-682-01 WASHER, T 716 3-081-221-01 LABEL (Z), LS ☞ M901 A-7048-981-A DRUM (DEH-30A-R) (SERVICE)

5-2. ELECTRICAL PARTS LIST

☞ : Changed portion.

Page	INCORRECT	CORRECT
5-27	***Checking supplied accessories.***  *NP-FM30 battery pack (1)* *(not supplied)*	***Checking supplied accessories.***  *NP-FM30 battery pack (1)* *⚠ A-7096-387-A (US, CND model)* *⚠ A-7096-388-B (Except US, CND model)* ☞ • Abbreviation CND : Canadian model **Note :** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified. **Note :** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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DCR-TRV22/TRV22E

RMT-814

SERVICE MANUAL

LEVEL 2

Ver 1.1 2003. 06
Revision History

Photo : DCR-TRV22

US Model
Canadian Model
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DCR-TRV22

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UK Model
North European Model
East European Model
Chinese Model
Australian Model
DCR-TRV22E

E Model
Hong Kong Model
Tourist Model
DCR-TRV22/TRV22E

Z MECHANISM

Link

SPECIFICATIONS	BLOCK DIAGRAMS	PRINTED WIRING BOARDS
SERVICE NOTE	FRAME SCHEMATIC DIAGRAMS	REPAIR PARTS LIST
DISASSEMBLY	SCHEMATIC DIAGRAMS	

- For INSTRUCTION MANUAL, refer to SERVICE MANUAL, LEVEL 1 (987622241.pdf).
- For MECHANISM ADJUSTMENTS, refer to the “DV MECHANICAL ADJUSTMENT MANUAL Ⅶ Z MECHANISM ” (9-876-210-11).
- Reference No. search on printed wiring boards is available.

On the VC-312 board

This service manual provides the information that is premised the circuit board replacement service and not intended repair inside the VC-312 board.

Therefore, schematic diagram, printed wiring board, waveforms, mounted parts location and electrical parts list of the VC-312 board are not shown.

The following pages are not shown.

Schematic diagram	Pages 4-37 to 4-64	Mounted parts location	Page 4-95
Printed wiring board	Pages 4-85 to 4-88	Electrical parts list	Pages 5-21 to 5-26
Waveforms	Pages 4-91 to 4-92		

Mini DV Digital Video Cassette

DIGITAL VIDEO CAMERA RECORDER

SONY®

SPECIFICATIONS

Video camera recorder

System

Video recording system
2 rotary heads
Helical scanning system

Audio recording system
Rotary heads, PCM system
Quantization: 12 bits (Fs 32 kHz, stereo 1, stereo 2), 16 bits (Fs 48 kHz, stereo)

Video signal
DCR-TRV22:
NTSC color, EIA standards
DCR-TRV22E:
PAL colour, CCIR standards

Usable cassette
Mini DV cassette with the Mini DV mark printed

Tape speed
SP: Approx. 18.81 mm / s
LP: Approx. 12.56 mm / s

Recording/playback time (using cassette DVM60)
SP: 1 hour
LP: 1.5 hours

Fastforward/rewind time (using cassette DVM60)
Approx. 2 min. and 40 seconds

Viewfinder
Electric viewfinder (colour)

Image device
4.5 mm (1 / 4 type)
CCD (Charge Coupled Device)
Gross:
DCR-TRV22: Approx. 680 000 pixels
DCR-TRV22E: Approx. 800 000 pixels
Effective (still):
DCR-TRV22: Approx. 340 000 pixels
Effective (moving):
DCR-TRV22E: Approx. 400 000 pixels

Lens
Carl Zeiss Vario-Sonnar
Combined power zoom lens
Filter diameter: 30 mm (1 3 / 16 in)
10× (Optical), 120× (Digital)
F = 1.7 – 2.2

Focal length
3.3 – 33 mm (5 / 32 – 1 5 / 16 in.)1)
42 – 420 mm (1 11 / 16 – 16 5 / 8 in.)2)
42 – 420 mm (1 11 / 16 – 16 5 / 8 in.)3)

1) When converted to a 35 mm still camera
2) In CAMERA mode
3) In MEMORY mode

Colour temperature
Auto, HOLD, INDOOR (3 200 K), OUTDOOR (5 800 K)

Minimum illumination
5 lx (lux) (F1.7)
0 lx (lux) (in the NightShot mode)*

* Objects unable to be seen due to the dark can be shot with infrared lighting.

Input/Output connectors

S video input/output
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 Ω (ohms), unbalanced
Chrominance signal:
DCR-TRV22: 0.286 Vp-p,
DCR-TRV22E: 0.3 Vp-p,
75 Ω (ohms), unbalanced

Audio/Video input/output
AV MINI JACK, 1 Vp-p, 75 Ω (ohms), unbalanced
327 mV, (at output impedance more than 47 kΩ (kilohms))
Output impedance with less than 2.2 kΩ (kilohms) / Stereo minijack (ø 3.5 mm)
Input impedance more than 47 kΩ (kilohms)

DV input/output
4-pin connector

Headphone jack
Stereo minijack (ø 3.5 mm)

LANC jack
Stereo mini-minijack (ø 2.5 mm)

USB jack
mini-B

MIC jack
Minijack, 0.388 mV low impedance with 2.5 to 3.0 V DC, output impedance 6.8 kΩ (kilohms) (ø 3.5 mm)
Stereo type

LCD screen

Picture
6.2 cm (2.5 type)
50.3 × 37.4mm (2 × 1 1 / 2in.)

Total dot number
123 200 (560 × 220)

General

Power requirements
7.2 V (battery pack)
8.4 V (AC Adaptor)

Average power consumption (when using the battery pack)
3.3 W1)
2.5 W2)

1) During camera recording using LCD
2) Viewfinder

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to + 60°C
(–4°F to + 140°F)

Dimensions (approx.)
71 × 90 × 112 mm
(2 7 / 8 × 3 5 / 8 × 4 1 / 2 in.) (w / h / d)

Mass (approx.)
Main unit only
530 g (1 lb 2 oz)
Including the rechargeable battery pack NP-FM30, cassette DVM60 and lens cap
620 g (1 lb 5 oz)

Supplied accessories
See page 3.

AC Adaptor AC-L15A/L15B

Power requirements
100 – 240 V AC, 50 / 60 Hz

Current consumption
0.35 – 0.18 A

Power consumption
18 W

Output voltage
DC OUT: 8.4 V, 1.5 A

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to + 60°C
(–4°F to + 140°F)

Dimensions (approx.)
56 × 31 × 100 mm
(2 1 / 4 × 1 1 / 4 × 4 in.) (w / h / d)
excluding projecting parts

Mass (approx.)
190 g (6.7 oz)
excluding power cord

Rechargeable battery pack NP-FM30

Maximum output voltage
DC 8.4 V

Output voltage
DC 7.2 V

Capacity
5.0 Wh (700 mAh)

Dimensions (approx.)
38.2 · 20.5 · 55.6 mm
(1 9 / 16 × 13 / 16 × 2 1 / 4 in.)
(w / h / d)

Mass (approx.)
65 g (2.3 oz)

Operating temperature
0°C to 40°C (32°F to 104°F)

Type
Lithium ion

"Memory Stick"

Memory
Flash memory
8MB: MSA-8A

Operating voltage
2.7 – 3.6 V

Power consumption
Approx. 45 mA during operation mode
Approx. 130 µA during tape recording standby

Dimensions (approx.)
50 × 2.8 × 21.5 mm
(2 × 1 / 8 × 7 / 8 in.) (w / h / d)

Mass (approx.)
4 g (0.14 oz)

Design and specifications are subject to change without notice.

CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

SAFETY-RELATED COMPONENT WARNING!!

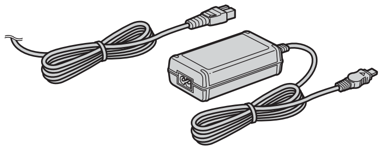
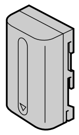
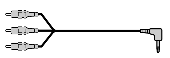
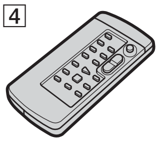
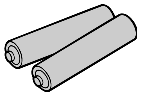
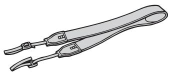
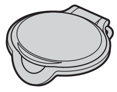
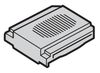
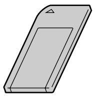
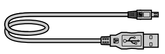
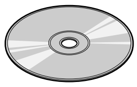
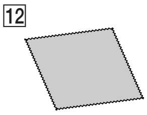
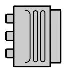
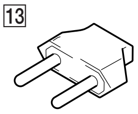
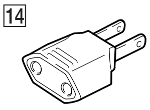
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

• SUPPLIED ACCESSORIES

Make sure that the following accessories are supplied with your camcorder.

1 			2 	3 
4 	5 	6 	7 	8 
9 	10 	11 	12 	13 
13 	14 			

1 AC-L15A/L15B AC Adaptor (1), Power cord (1)
2 NP-FM30 rechargeable battery pack (1)
3 A/V connecting cable (1)
4 Wireless Remote Commander (1) RMT-814
5 R6 (size AA) battery for Remote Commander (2)
6 Shoulder strap (1)
7 Lens cap (1)
8 Shoe cover (1)
9 "Memory Stick" (1)
MSA-8A

10 USB cable (1)
11 CD-ROM (USB Driver) (1)
SPVD-010 (I) TRV22:US, CND model only
SPVD-010 TRV22:E, HK, BR, JE, KR / TRV22E model only
12 Cleaning cloth (1)
13 21-pin adaptor* (1) (AEP, UK, EE, NE model only)
The models with CE mark printed on their bottom surfaces only.
14 2-pin conversion adaptor (1)
(DCR-TRV22 : JE / TRV22E : JE only)
15 2-pin conversion adaptor (1)
(DCR-TRV22 : E, HK / TRV22E : E / HK only)

- Abbreviation

CND : Canadian model
AUS : Australian model
JE : Tourist model
KR : Korea model
CH : Chinese model
EE : East European model
NE : North European model
HK : Hong Kong model

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

Unleaded solder

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

LF : LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

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SECTION 1
SERVICE NOTE

1-1. SERVICE NOTE

1. POWER SUPPLY DURING REPAIRS

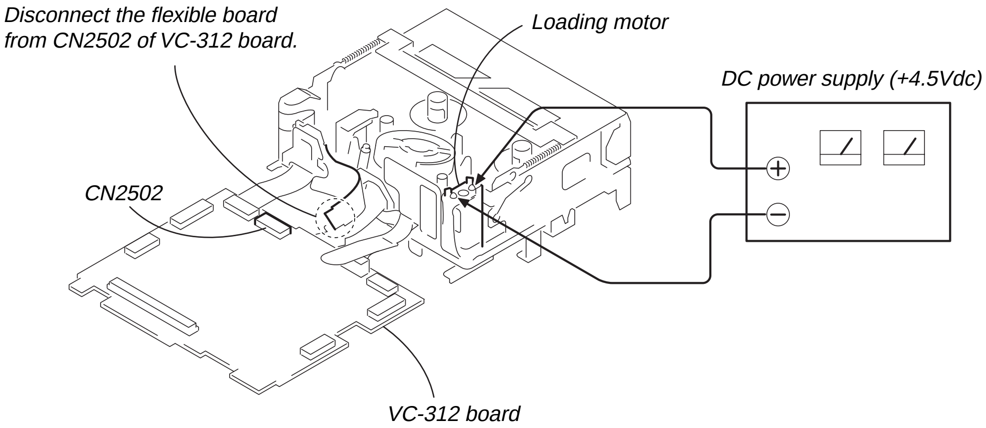
In this unit, about 10 seconds after power is supplied to the battery terminal using the regulated power supply (8.4V), the power is shut off so that the unit cannot operate.
This following two methods are available to prevent this. Take note of which to use during repairs.

Method 1.
Use the AC power adaptor (AC-L10, AC-VQ800 etc.).

Method 2.
Connect the servicing remote commander RM-95 (J-6082-053-B) to the LANC jack, and set the commander switch to the “ADJ” side.

2. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

① Refer to 2-2 to remove the cabinet (R) cover (39E).
② Refer to 2-3 to remove the F panel section.
③ Refer to 2-5 to remove the cabinet (R) section.
④ Refer to 2-10 to remove the BT panel/EVF section.
⑤ Refer to 2-14 to remove the VA-118 board and Lens section.
⑥ Refer to 2-16 to remove the VC-312 board and Mechanism deck.
⑦ Refer to 2-17 to remove the MD frame assembly from the VC-312 board and Mechanism deck.
⑧ Disconnect the flexible board from CN2502 of VC-312 board.
⑨ Supply +4.5V from the DC power supply to the loading motor and unload with a pressing the cassette compartment.

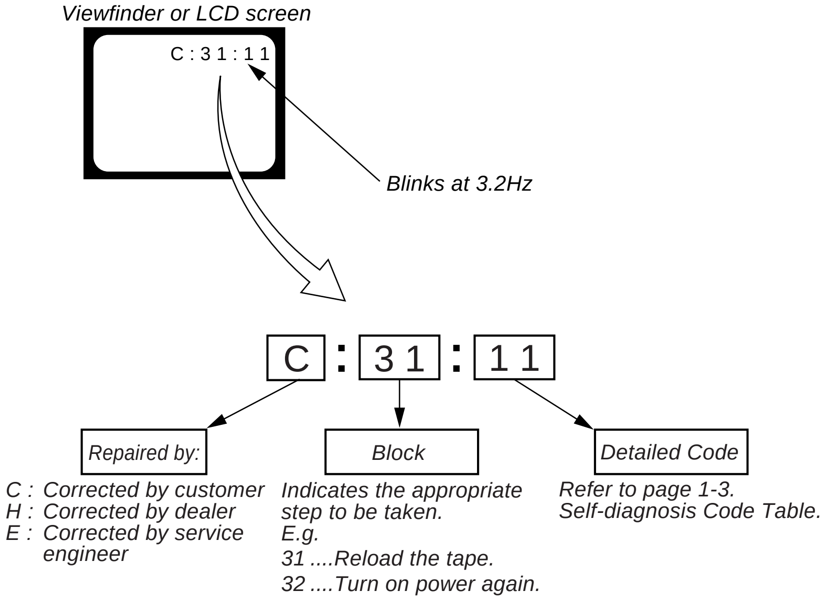

Disconnect the flexible board
from CN2502 of VC-312 board.
Loading motor
DC power supply (+4.5Vdc)
CN2502
⊕
⊖
VC-312 board

1-2. SELF-DIAGNOSIS FUNCTION

1. SELF-DIAGNOSIS FUNCTION

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder, or LCD screen what to do. This function consists of two display; self-diagnosis display and service mode display.

Details of the self-diagnosis functions are provided in the Instruction manual.


Viewfinder or LCD screen
C : 3 1 : 1 1
Blinks at 3.2Hz
C : 31 : 11
Repaired by:
Block
Detailed Code
C : Corrected by customer
H : Corrected by dealer
E : Corrected by service engineer
Indicates the appropriate step to be taken.
E.g.
31 ....Reload the tape.
32 ....Turn on power again.
Refer to page 1-3.
Self-diagnosis Code Table.

2. SELF-DIAGNOSIS DISPLAY

When problems occur while the unit is operating, the counter of the viewfinder or LCD screen consists of an alphabet and 4-digit number, which blinks at 3.2Hz. This 5-character display indicates the "repaired by:", "block" in which the problem occurred, and "detailed code" of the problem.

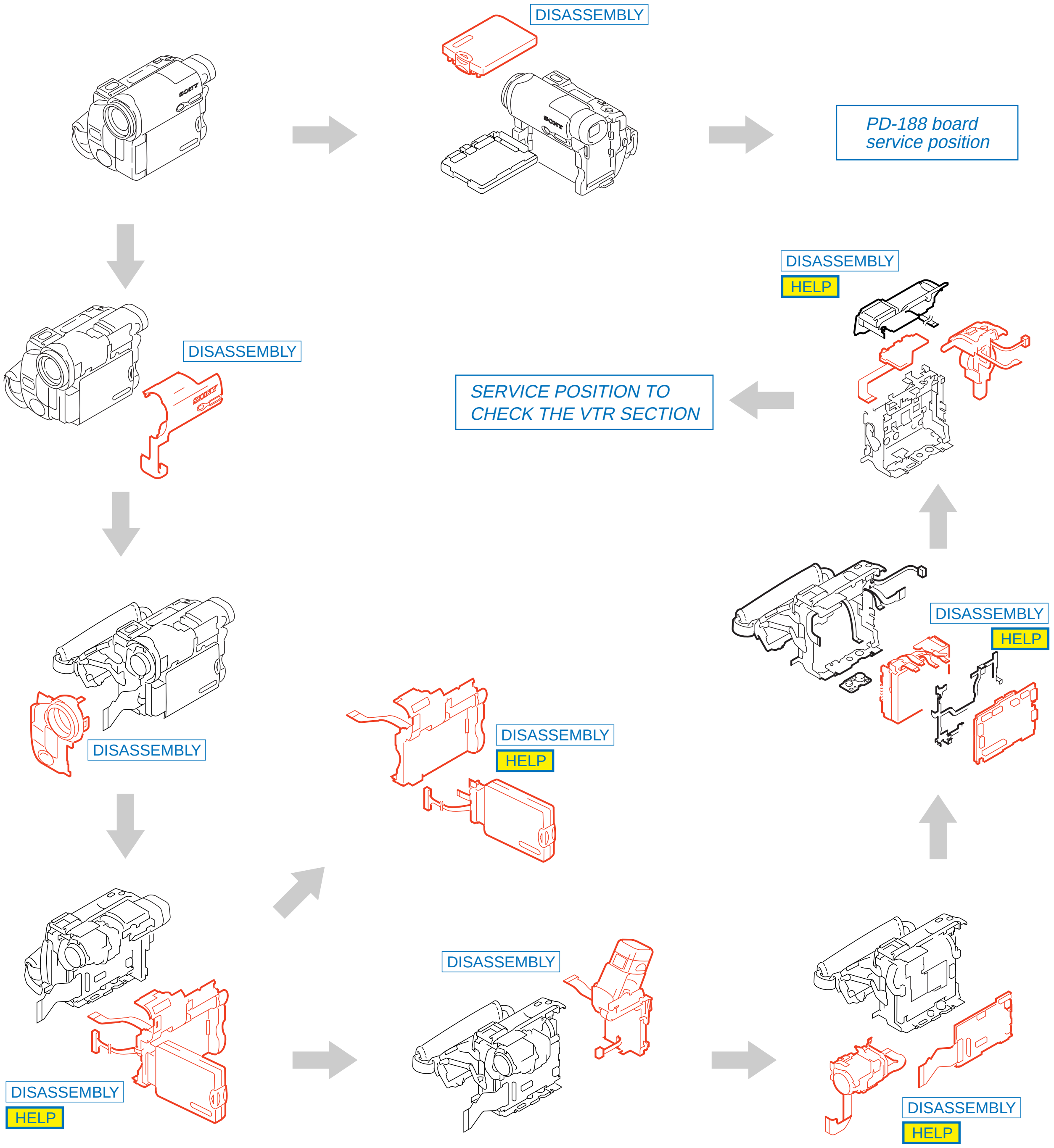
Note: The "self-diagnosis display" data will be kept even if the lithium battery (BT5201 of CK-129 board) is removed.

4. SELF-DIAGNOSIS CODE TABLE

Self-diagnosis Code					Symptom/State	Correction
Repaired by:	Block Function		Detailed Code			
C	0	4	0	0	Non-standard battery is used.	Use the info LITHIUM battery.
C	2	1	0	0	Condensation.	Remove the cassette, and insert it again after one hour.
C	2	2	0	0	Video head is dirty.	Clean with the optional cleaning cassette.
C	3	1	1	0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	1	1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	2	0	T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2	1	Winding S reel fault when counting the rest of tape.	Load the tape again, and perform operations from the beginning.
C	3	1	2	2	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	3	S reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	4	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	3	0	FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3	1	4	0	FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3	1	4	2	FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3	1	1	0	LOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	1	1	1	UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	0	T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	1	Winding S reel fault when counting the rest of tape.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	2	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	3	S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	4	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3	0	FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	0	FG fault when starting drum	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	2	FG fault during normal drum operations	Remove the battery or power cable, connect, and perform operations from the beginning.
E	6	1	0	0	Difficult to adjust focus (Cannot initialize focus.)	Inspect the lens block focus reset sensor (Pin ⑦ of CN1201 of VC-312 board) when focusing is performed when the focus buttons of the touch panel are pressed in the focus manual mode, and the focus motor drive circuit (IC1203 of VC-312 board) when the focusing is not performed.
E	6	1	1	0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the lens block zoom reset sensor (Pin ⑯ of CN1201 of VC-312 board) when zooming is performed when the zoom lens is operated and the zoom motor drive circuit (IC1203 of VC-312 board) when zooming is not performed.
E	6	2	0	0	Steadyshot function does not work well. (With pitch angular velocity sensor output stopped.)	Inspect pitch angular velocity sensor (SE5402 of MA-421 board) peripheral circuits.
E	6	2	0	1	Steadyshot function does not work well. (With yaw angular velocity sensor output stopped.)	Inspect yaw angular velocity sensor (SE5401 of A-421 board) peripheral circuits.

SECTION 2
DISASSEMBLY

The following flow chart shows the disassembly procedure.


DISASSEMBLY
PD-188 board
service position
DISASSEMBLY
HELP
DISASSEMBLY
SERVICE POSITION TO
CHECK THE VTR SECTION
DISASSEMBLY
HELP
DISASSEMBLY
DISASSEMBLY
HELP
DISASSEMBLY
HELP
DISASSEMBLY
DISASSEMBLY
HELP

PROCEDURE OF REMOVING THE MECHANISM DECK.
(VTR CHECK SERVICE POSITION)

① 2-2. CABINET (R) COVER (39E) ASSEMBLY .... (page 2-4)
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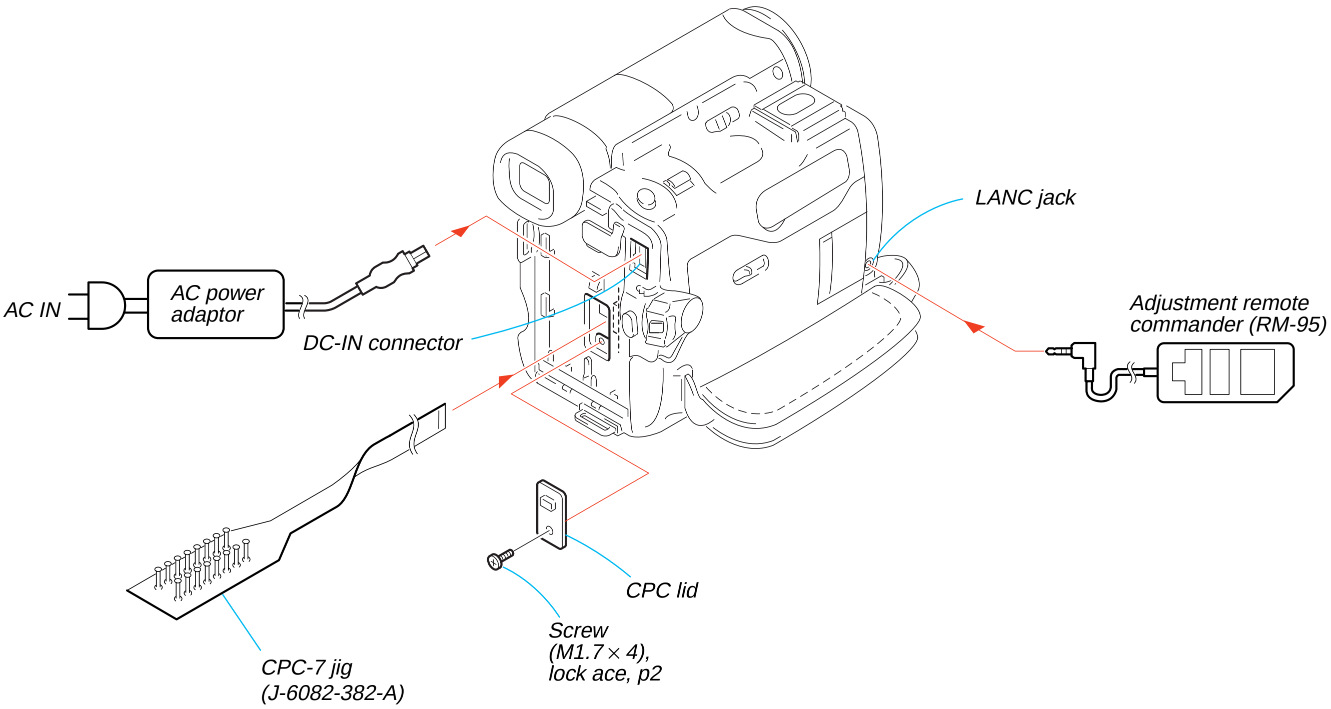
⑨ 2-19. CONTROL SWITCH BLOCK (FK-CX4000).... (page 2-18)
⑩ 2-20. JK-242 BOARD .... (page 2-18)
⑪ SERVICE POSITION TO CHECK
THE VTR SECTION... (page 2-19)

NOTE: Follow the disassembly procedure in the numerical order given.

[CONNECTION OF EQUIPMENT]

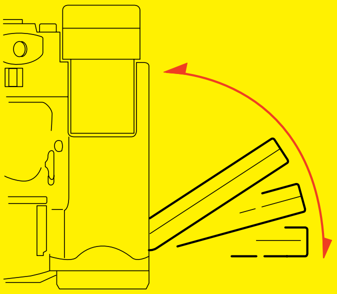

LANC jack
AC IN
AC power adaptor
DC-IN connector
Adjustment remote commander (RM-95)
CPC lid
Screw (M1.7 × 4), lock ace, p2
CPC-7 jig (J-6082-382-A)

2-1. P CABINET (C) ASSEMBLY

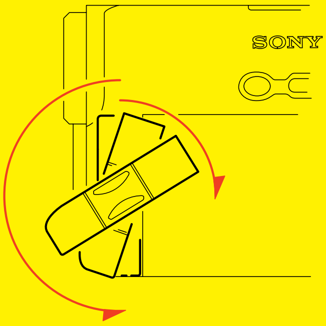
Caution

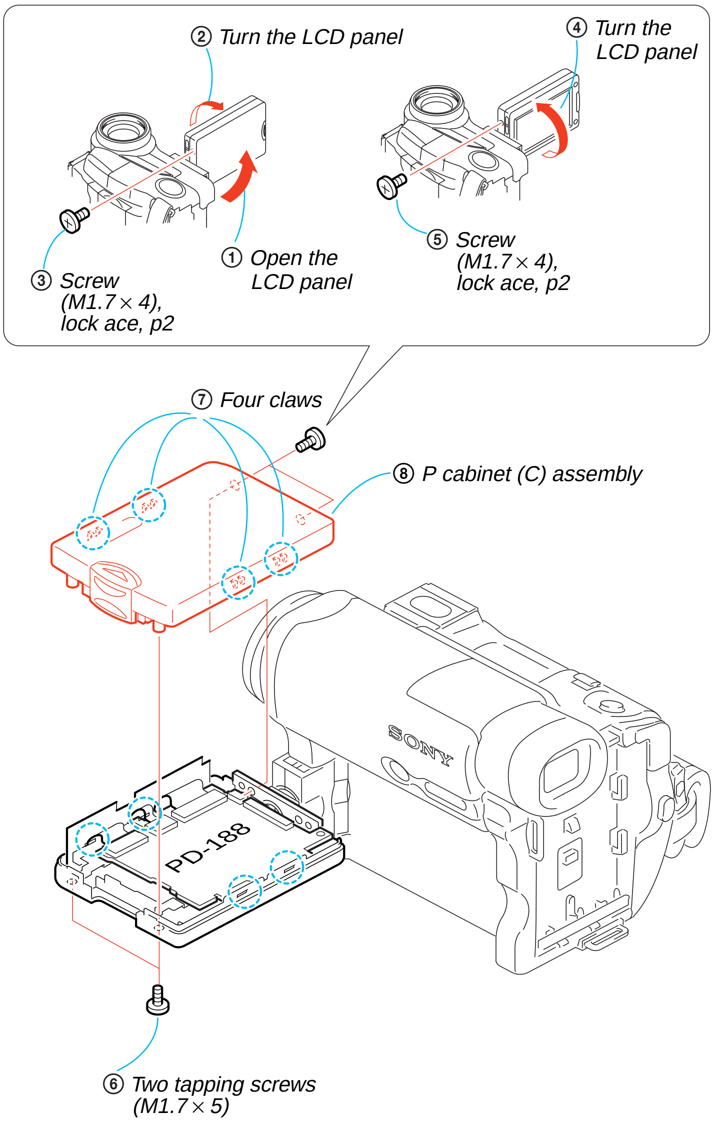
Rotation of the LCD panel has limitation due to its hinge in this model. Excessive force to rotate the LCD panel damages the hinge. Follow the precaution below.

Opening and closing of LCD panel must be performed only in the state that the LCD panel is completely in parallel (perpendicular) with the main body of the recorder.

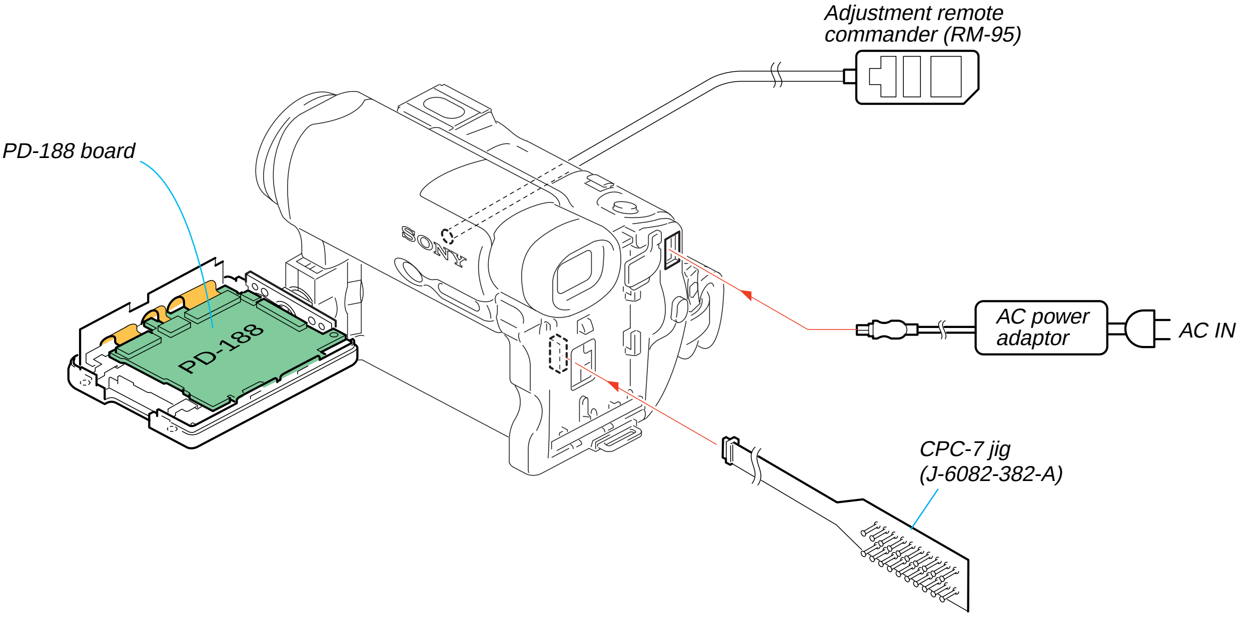


When you want to rotate the LCD panel, rotate it after the LCD panel is opened in its fully opened position.

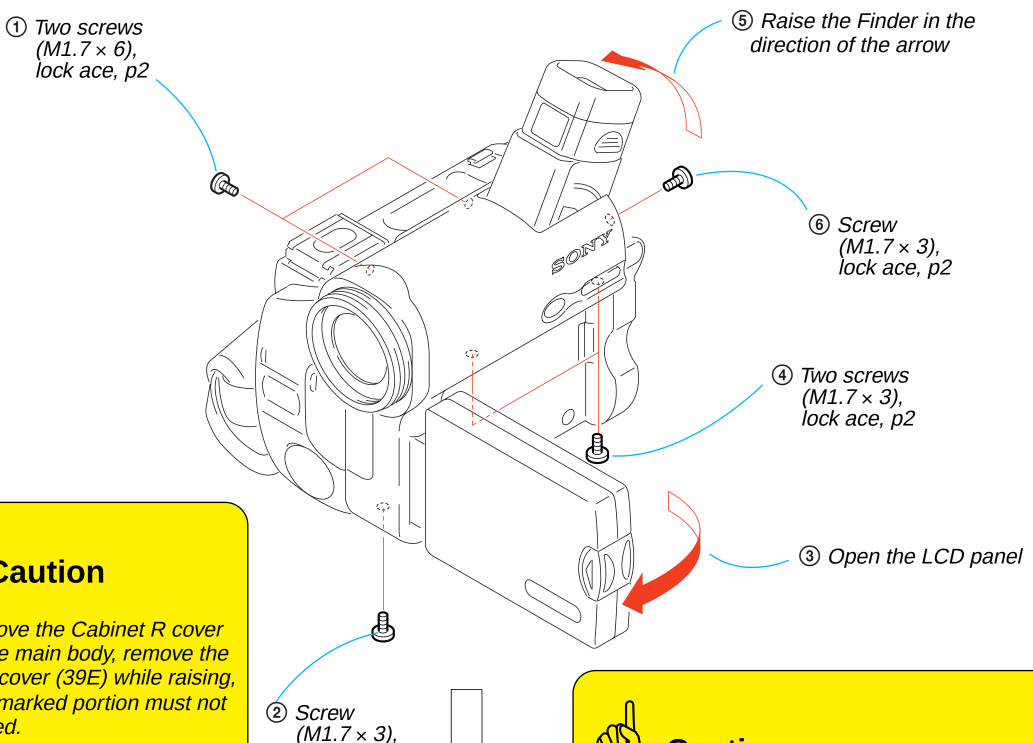



② Turn the LCD panel
④ Turn the LCD panel
① Open the LCD panel
③ Screw (M1.7 × 4), lock ace, p2
⑤ Screw (M1.7 × 4), lock ace, p2
⑦ Four claws
⑧ P cabinet (C) assembly
SONY
PD-188
⑥ Two tapping screws (M1.7 × 5)

[PD-188 BOARD SERVICE POSITION]

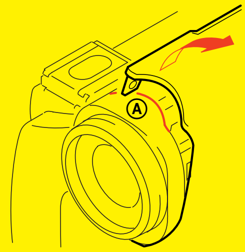

Adjustment remote commander (RM-95)
PD-188 board
PD-188
SONY
AC power adaptor
AC IN
CPC-7 jig (J-6082-382-A)

2-2. CABINET (R) COVER (39E) ASSEMBLY


① Two screws (M1.7 × 6), lock ace, p2
⑤ Raise the Finder in the direction of the arrow
⑥ Screw (M1.7 × 3), lock ace, p2
SONY
④ Two screws (M1.7 × 3), lock ace, p2
③ Open the LCD panel
② Screw (M1.7 × 3), lock ace, p2

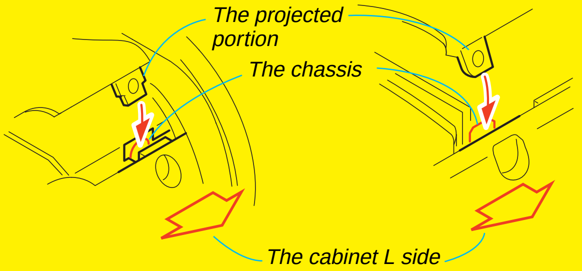
Caution

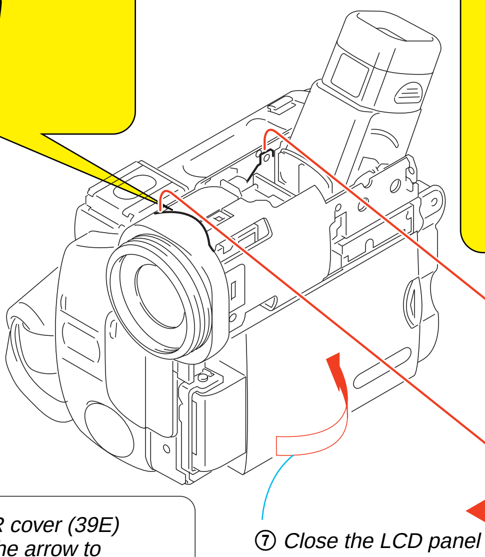
When remove the Cabinet R cover (39E) to the main body, remove the Cabinet R cover (39E) while raising, so that Ⓐ marked portion must not be damaged.

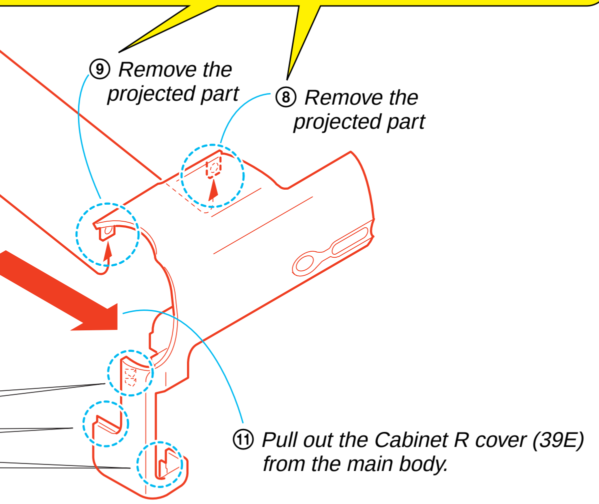


Caution

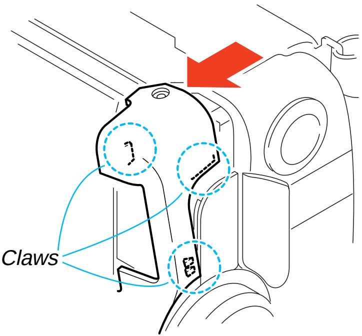
Insert the projected portion of the Cabinet R cover (40E) assembly into the cabinet L side of the the chassis.


The projected portion
The chassis
The cabinet L side

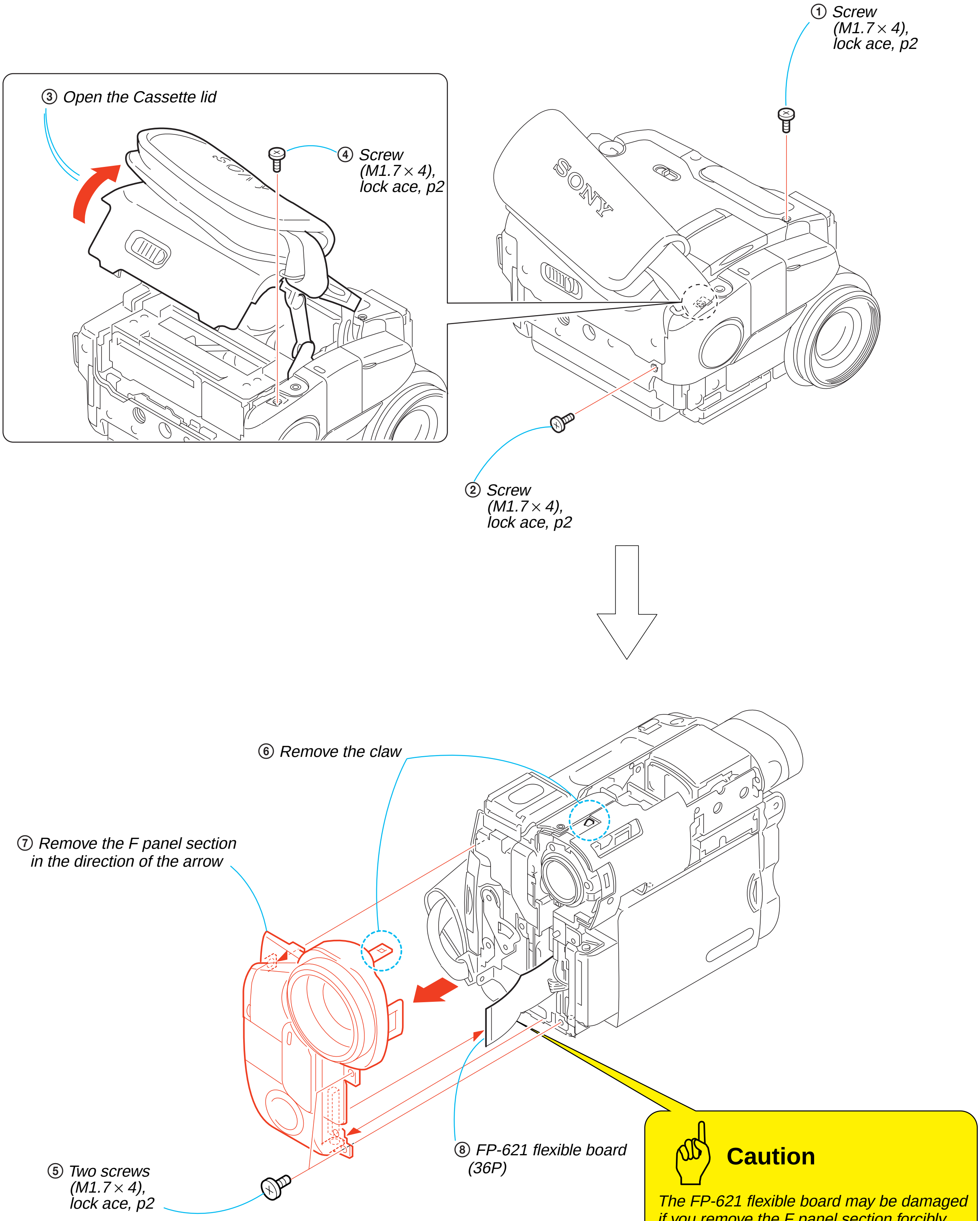

⑦ Close the LCD panel


⑨ Remove the projected part
⑧ Remove the projected part
⑪ Pull out the Cabinet R cover (39E) from the main body.

⑩ Push the Cabinet R cover (39E) in the direction of the arrow to remove the three claws.



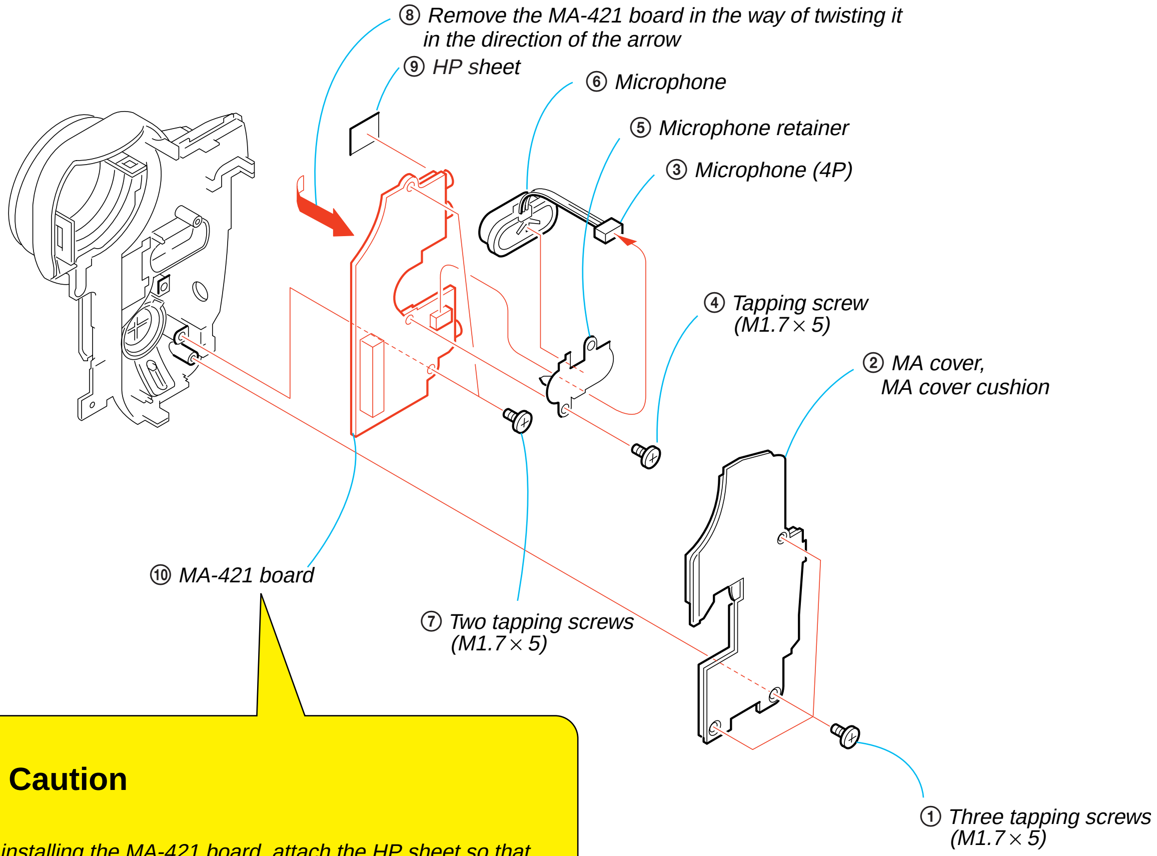
2-3. F PANEL SECTION


① Screw
(M1.7 × 4),
lock ace, p2
③ Open the Cassette lid
④ Screw
(M1.7 × 4),
lock ace, p2
② Screw
(M1.7 × 4),
lock ace, p2
⑥ Remove the claw
⑦ Remove the F panel section
in the direction of the arrow
⑧ FP-621 flexible board
(36P)
⑤ Two screws
(M1.7 × 4),
lock ace, p2

Caution

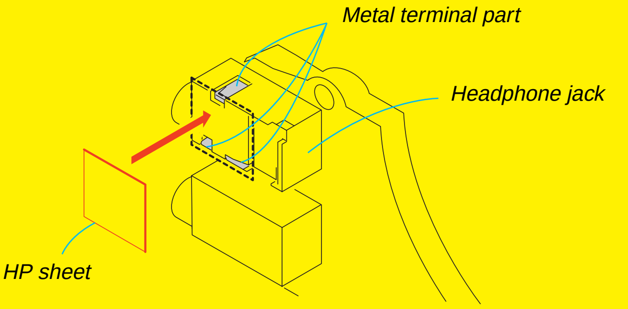
The FP-621 flexible board may be damaged if you remove the F panel section forcibly. Be very careful not to damage the flexible board.

2-4. MA-421 BOARD

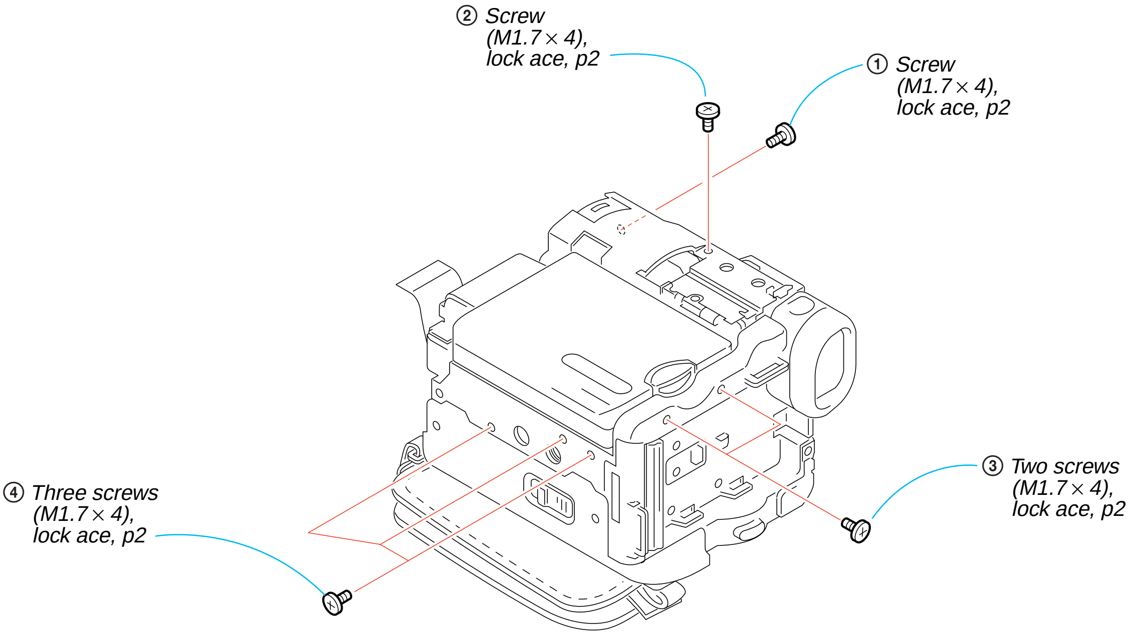

⑧ Remove the MA-421 board in the way of twisting it in the direction of the arrow
⑨ HP sheet
⑥ Microphone
⑤ Microphone retainer
③ Microphone (4P)
④ Tapping screw (M1.7 × 5)
② MA cover, MA cover cushion
⑩ MA-421 board
⑦ Two tapping screws (M1.7 × 5)
① Three tapping screws (M1.7 × 5)

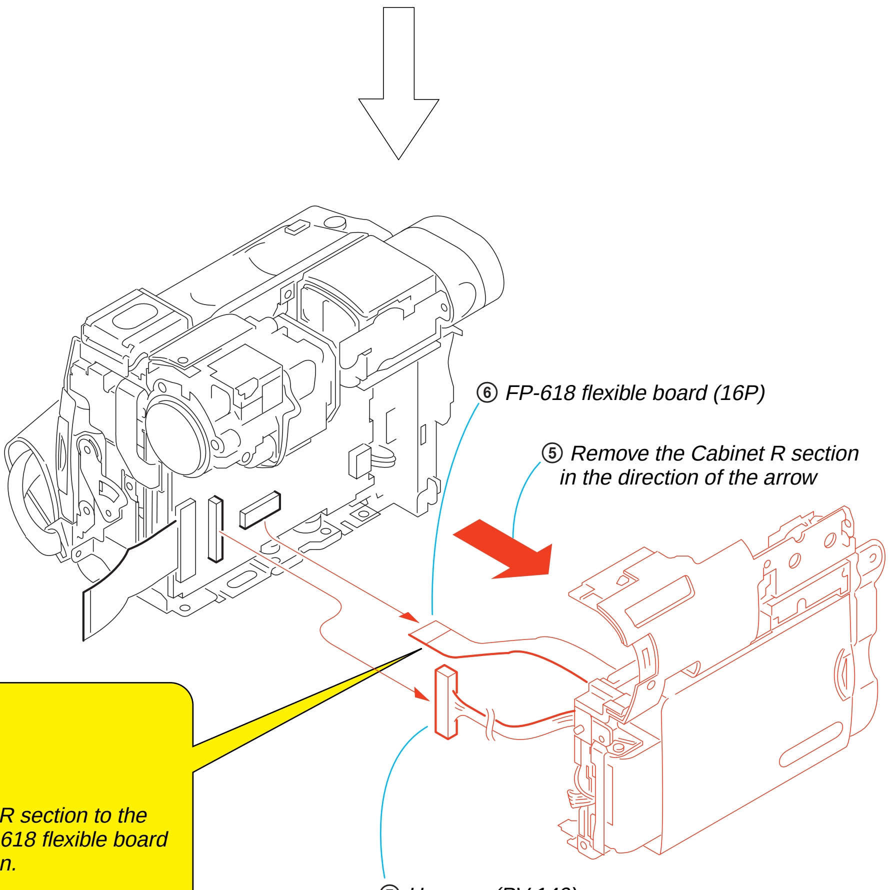
Caution

When installing the MA-421 board, attach the HP sheet so that the metal terminals of the headphones jack are hidden (insulated) by the HP sheet.


Metal terminal part
Headphone jack
HP sheet

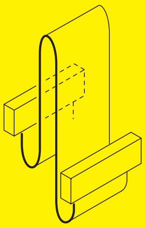
2-5. CABINET (R) SECTION


② Screw
(M1.7 × 4),
lock ace, p2
① Screw
(M1.7 × 4),
lock ace, p2
④ Three screws
(M1.7 × 4),
lock ace, p2
③ Two screws
(M1.7 × 4),
lock ace, p2


⑥ FP-618 flexible board (16P)
⑤ Remove the Cabinet R section
in the direction of the arrow
⑦ Herness (PV-140)
(20P)

Caution

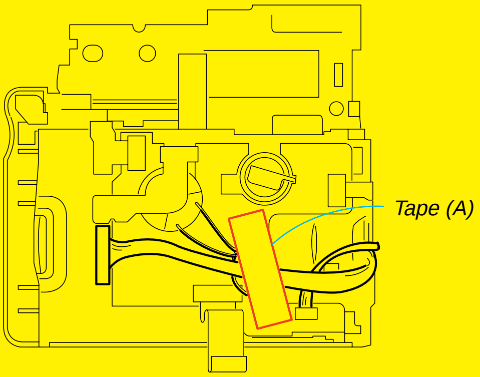
When install the Cabinet R section to the main body, install the FP-618 flexible board as shown in the illustration.

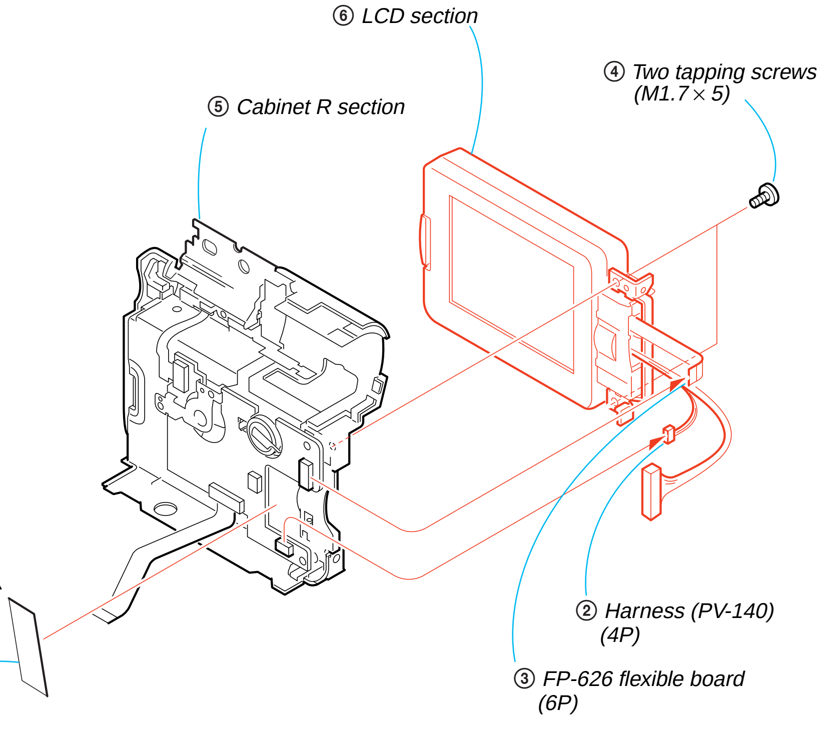


2-6. LCD SECTION

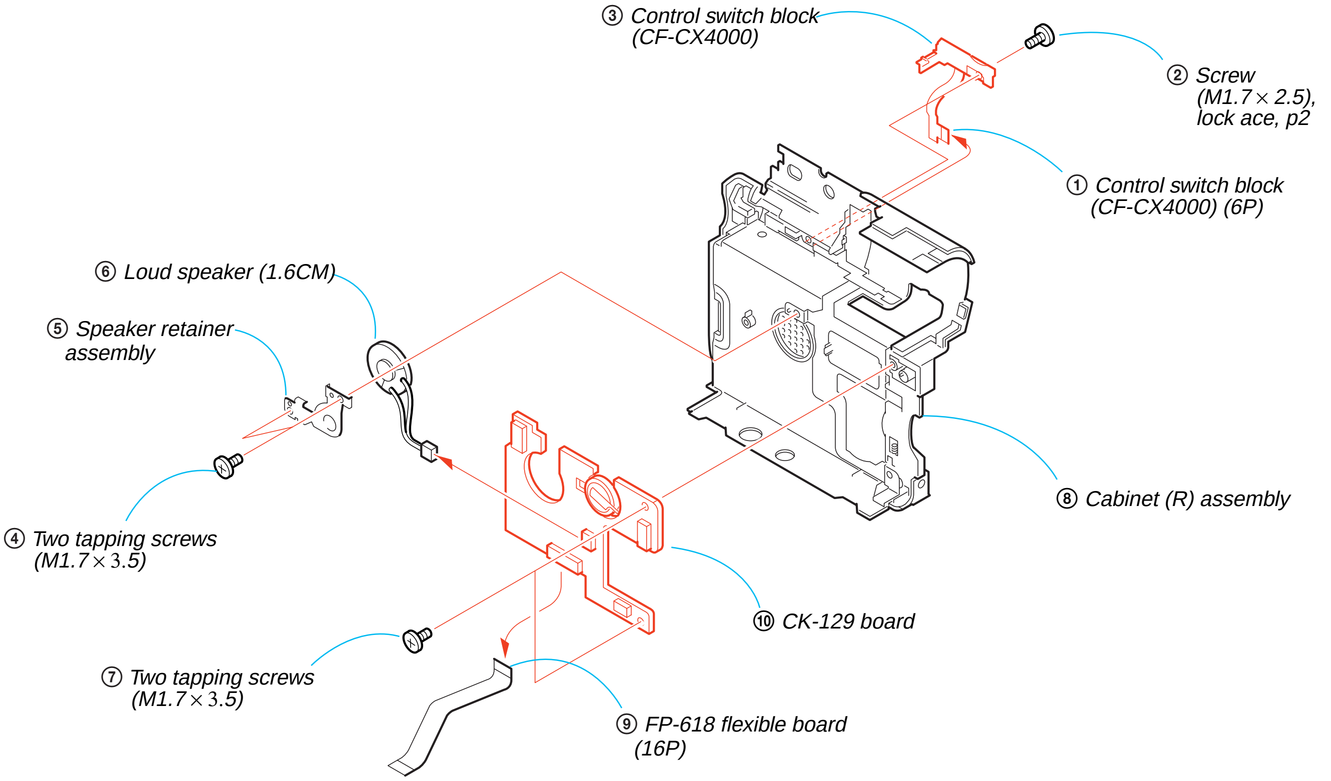
Caution

Attach the Tape (A) as shown in the illustration.

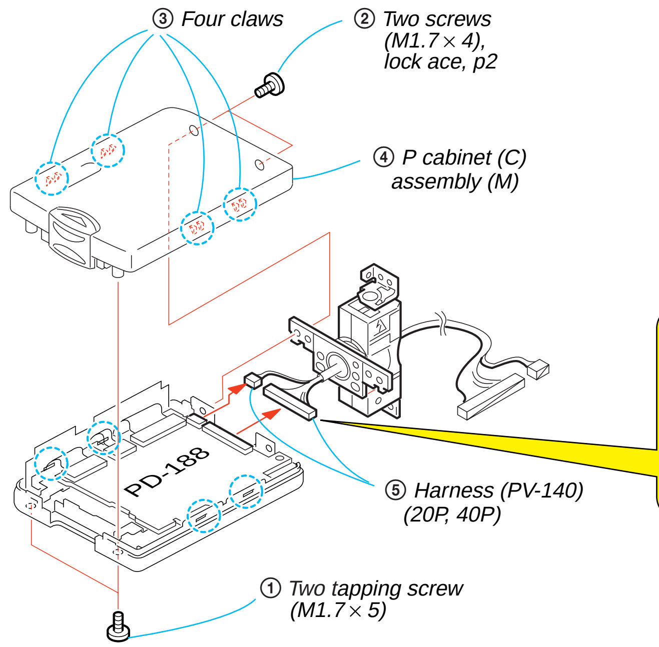



⑥ LCD section
④ Two tapping screws (M1.7 × 5)
⑤ Cabinet R section
② Harness (PV-140) (4P)
③ FP-626 flexible board (6P)
① Tape (A)

2-7. CK-129 BOARD, CONTROL SWITCH BLOCK (CF-CX4000)

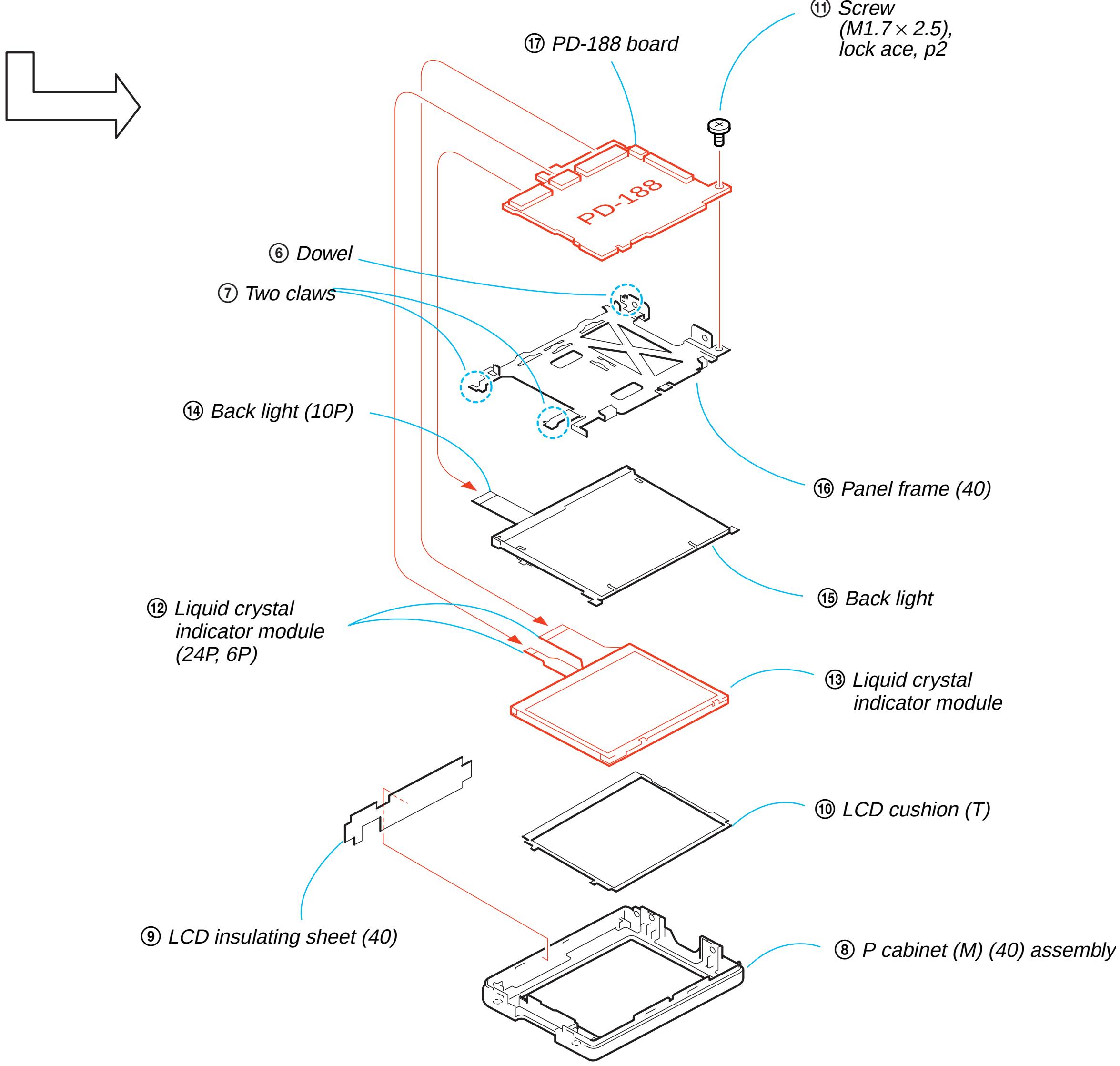

③ Control switch block (CF-CX4000)
② Screw (M1.7 × 2.5), lock ace, p2
① Control switch block (CF-CX4000) (6P)
⑥ Loud speaker (1.6CM)
⑤ Speaker retainer assembly
⑧ Cabinet (R) assembly
④ Two tapping screws (M1.7 × 3.5)
⑩ CK-129 board
⑦ Two tapping screws (M1.7 × 3.5)
⑨ FP-618 flexible board (16P)

2-8. PD-188 BOARD, LCD UNIT

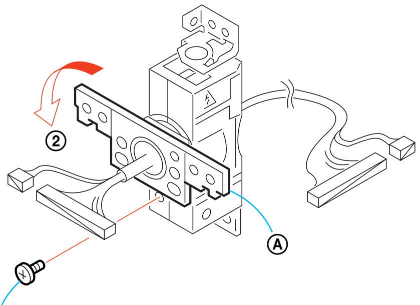

③ Four claws
② Two screws (M1.7 × 4), lock ace, p2
④ P cabinet (C) assembly (M)
PD-188
⑤ Harness (PV-140) (20P, 40P)
① Two tapping screw (M1.7 × 5)

Caution

When remove the Harness (PV-140), be careful to damage the Harness (PV-140).


⑰ PD-188 board
⑪ Screw (M1.7 × 2.5), lock ace, p2
PD-188
⑥ Dowel
⑦ Two claws
⑭ Back light (10P)
⑯ Panel frame (40)
⑮ Back light
⑫ Liquid crystal indicator module (24P, 6P)
⑬ Liquid crystal indicator module
⑩ LCD cushion (T)
⑨ LCD insulating sheet (40)
⑧ P cabinet (M) (40) assembly

2-9. HINGE (40) ASSEMBLY



① Screw
(M1.7 × 4),
lock ace, p2

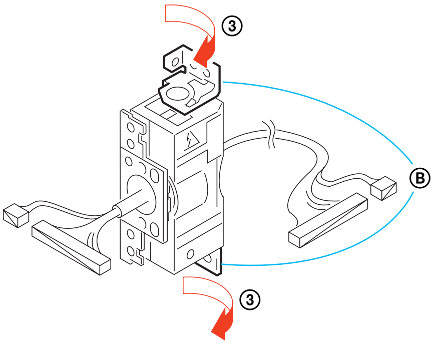
② Rotate to the "A" marked portion
counterclockwise by 90 degrees

Caution

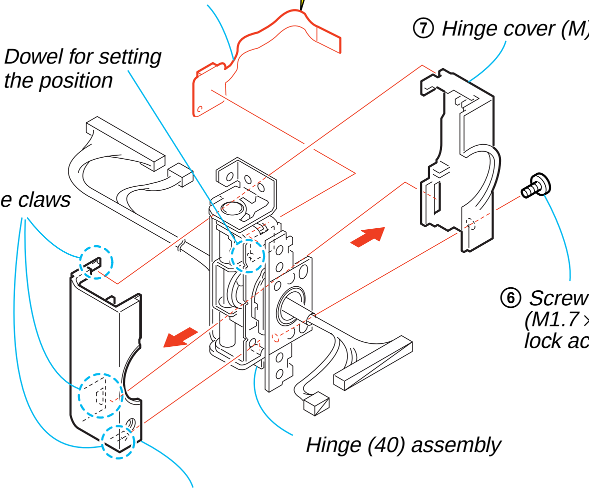
Rotation of the LCD panel has limitation due to its hinge in this model. Excessive force to rotate the LCD panel damages the hinge.
(Refer to "Caution"of 2.1 Pcabinet assembly.)

Caution

If the FP-626 flexible board is removed once, the adhesion strength of a double-sided tape decreases. Use the new FP-626 flexible board at the time of an assembly.



③ Rotate the "B" marked portion
counterclockwise by 90 degrees
in the direction of the arrow



⑧ Remove the FP-626 flexible board
that is attached by the doble-sided tape

⑦ Hinge cover (M) (40)

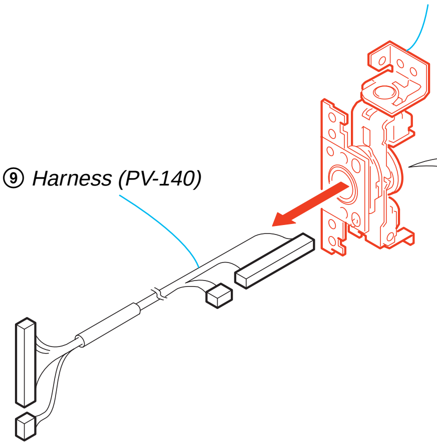
Dowel for setting
the position

④ Three claws

⑥ Screw
(M1.7 × 4),
lock ace, p2

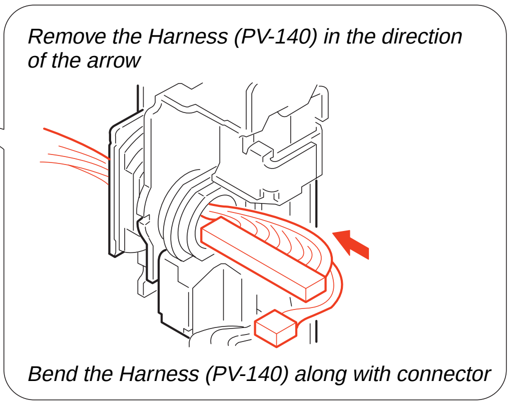
Hinge (40) assembly

⑤ Hinge cover (C) (40)



⑩ Hinge (40) assembly

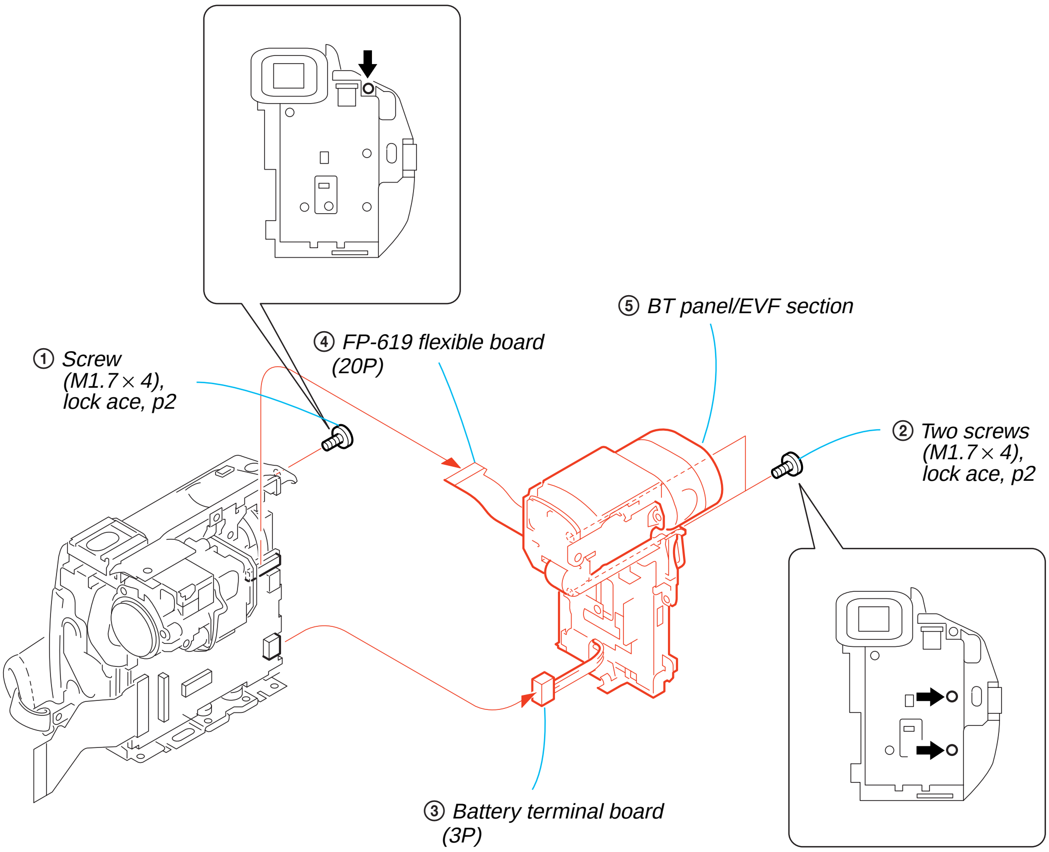
⑨ Harness (PV-140)



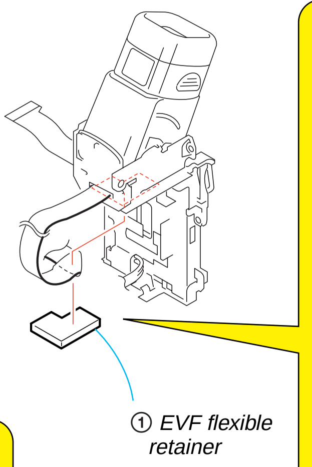
Remove the Harness (PV-140) in the direction
of the arrow

Bend the Harness (PV-140) along with connector

2-10. BT PANEL/EVF SECTION

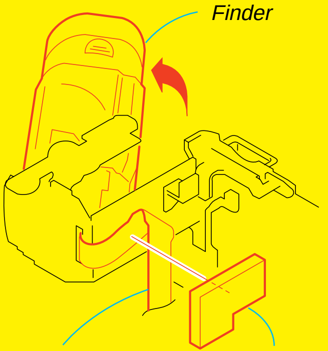

⑤ BT panel/EVF section
④ FP-619 flexible board (20P)
① Screw (M1.7 × 4), lock ace, p2
② Two screws (M1.7 × 4), lock ace, p2
③ Battery terminal board (3P)

2-11. LB-085 BOARD (REMOVING OF THE EVF)-1


① EVF flexible retainer

Caution

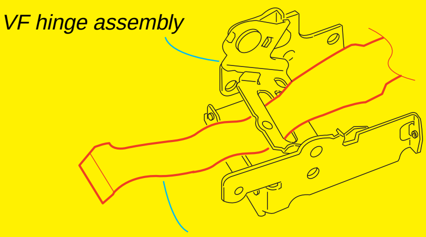
When installing the EVF flexible retainer, please be sure to install it while the viewfinder is kept pushed up to attach.

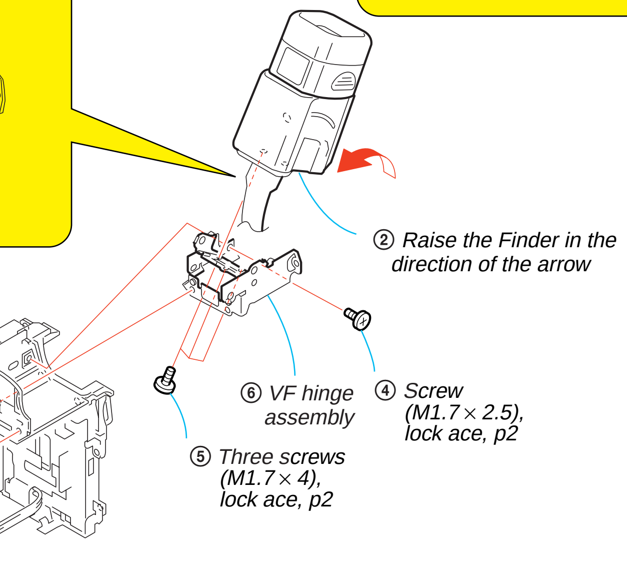

Finder
FP-619 flexible board
EVF flexible retainer

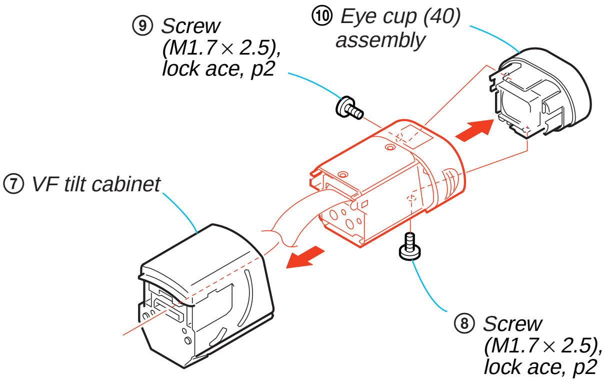
When installing the EVF flexible retainer, fold the FP-619 flexible board as shown in the illustration.

Caution

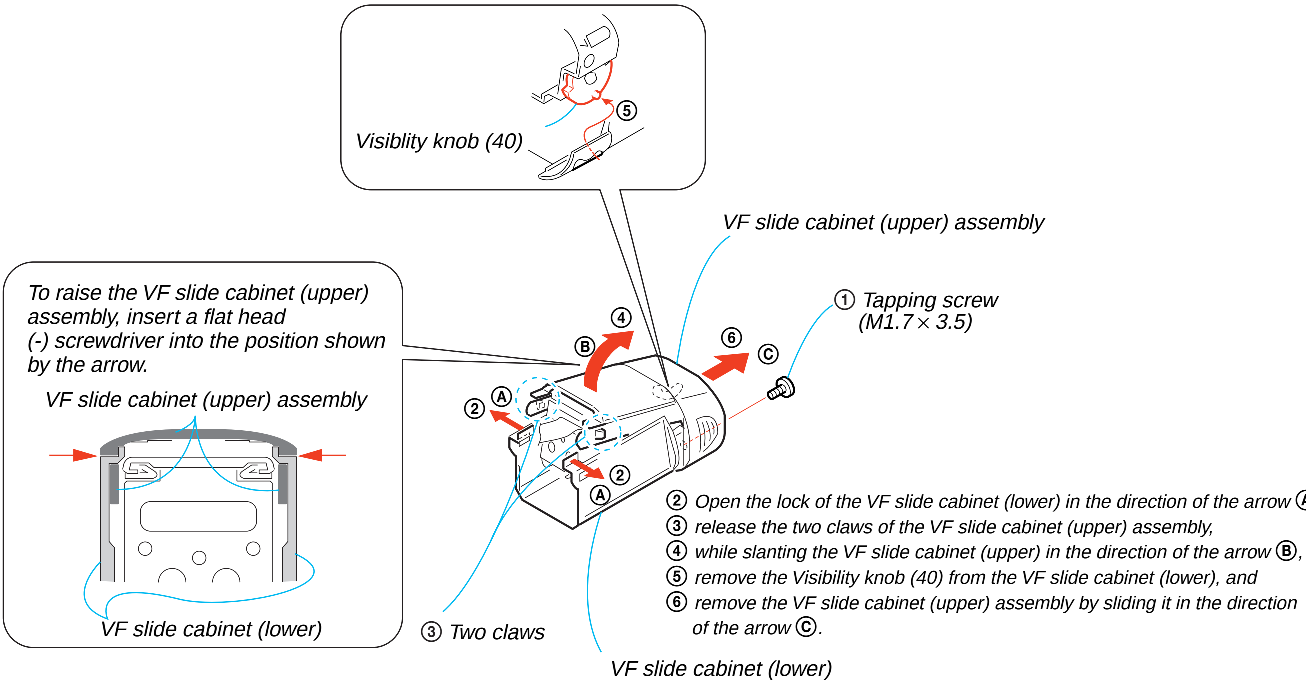
When installing, pass the FP-619 flexible board through the hole of the VF hinge assembly as shown in the illustration.


VF hinge assembly
FP-619 flexible board


② Raise the Finder in the direction of the arrow
⑥ VF hinge assembly
④ Screw (M1.7 × 2.5), lock ace, p2
⑤ Three screws (M1.7 × 4), lock ace, p2
③ Two screws (M1.7 × 2.5), lock ace, p2


⑨ Screw (M1.7 × 2.5), lock ace, p2
⑩ Eye cup (40) assembly
⑦ VF tilt cabinet
⑧ Screw (M1.7 × 2.5), lock ace, p2

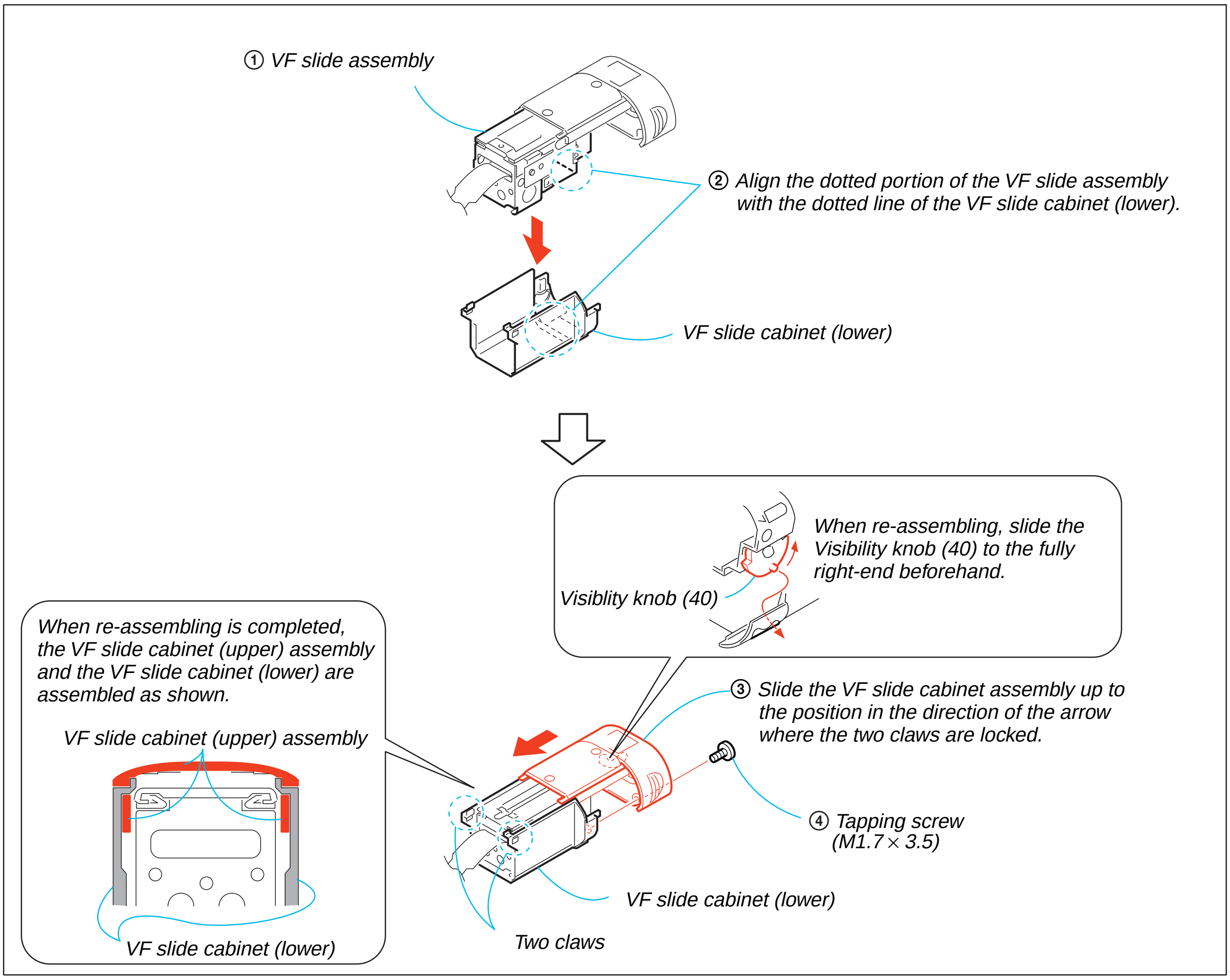
2-12. LB-085 BOARD (REMOVING OF THE EVF)-2


Visiblity knob (40)
⑤
VF slide cabinet (upper) assembly
① Tapping screw
(M1.7 × 3.5)
④
Ⓑ
⑥
Ⓒ
② Ⓐ
② Ⓐ
VF slide cabinet (upper) assembly
VF slide cabinet (lower)
③ Two claws
VF slide cabinet (lower)

To raise the VF slide cabinet (upper) assembly, insert a flat head (-) screwdriver into the position shown by the arrow.

② Open the lock of the VF slide cabinet (lower) in the direction of the arrow
③ release the two claws of the VF slide cabinet (upper) assembly,
④ while slanting the VF slide cabinet (upper) in the direction of the arrow Ⓑ,
⑤ remove the Visibility knob (40) from the VF slide cabinet (lower), and
⑥ remove the VF slide cabinet (upper) assembly by sliding it in the direction of the arrow Ⓒ.

RE-ASSEMBLING THE VF SLIDE CABINET


① VF slide assembly
VF slide cabinet (lower)
Visiblity knob (40)
VF slide cabinet (upper) assembly
VF slide cabinet (lower)
④ Tapping screw
(M1.7 × 3.5)
VF slide cabinet (lower)
Two claws

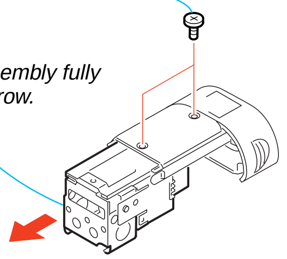
② Align the dotted portion of the VF slide assembly with the dotted line of the VF slide cabinet (lower).

When re-assembling, slide the Visibility knob (40) to the fully right-end beforehand.

When re-assembling is completed, the VF slide cabinet (upper) assembly and the VF slide cabinet (lower) are assembled as shown.

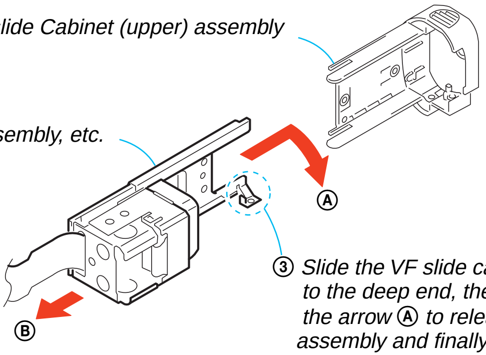
③ Slide the VF slide cabinet assembly up to the position in the direction of the arrow where the two claws are locked.

2-13. LB-085 BOARD (REMOVING OF THE EVF)-3



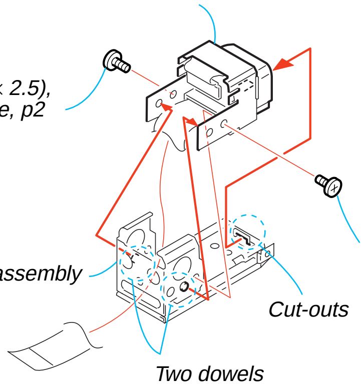
① Two screws (M1.7 × 2.5), lock ace, p2

② Pull out the VF slide assembly fully in the direction of the arrow.



VF slide Cabinet (upper) assembly
VF slide assembly, etc.
Ⓐ
Ⓑ

③ Slide the VF slide cabinet assembly and others once to the deep end, then slant them in the direction of the arrow Ⓐ to release the claw portion of the VF slide assembly and finally pull them out in the direction of the arrow Ⓑ and remove them.



⑥ Remove the LCD cabinet assembly and others from the two dowels and cut-outs of the VF slide assembly.

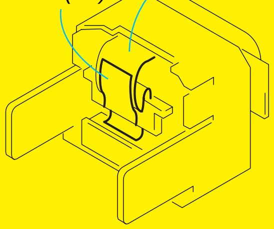
⑤ Screw (M1.7 × 2.5), lock ace, p2

④ Screw (M1.7 × 2.5), lock ace, p2

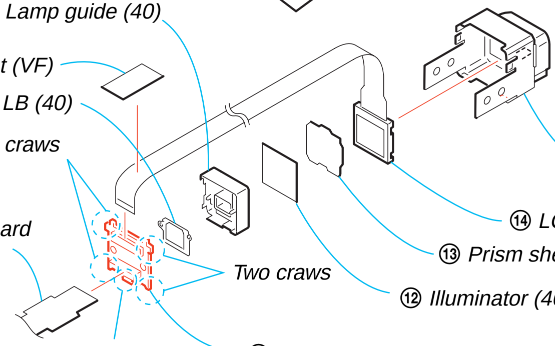
VF slide assembly
Cut-outs
Two dowels

Caution

When attach the Sheet (VF), fold the FP-619 flexible board as shown in the illustration.



Sheet (VF)
FP-619 flexible board

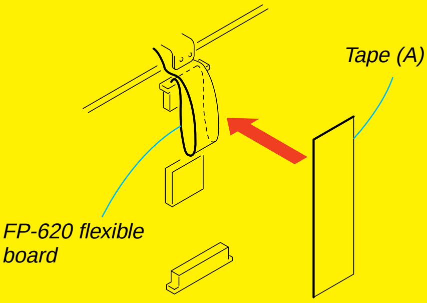


⑪ Lamp guide (40)
⑦ Sheet (VF)
⑩ Cushion LB (40)
Two craws
⑧ FP-619 flexible board
Projected part
Two craws
⑨ LB-085 board
⑮ LCD cabinet assembly
⑭ LCX032AN-5
⑬ Prism sheet (40)
⑫ Illuminator (40)

2-14. VA-118 BOARD, LENS SECTION

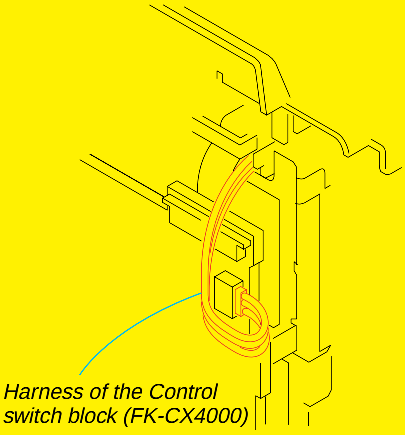
Caution

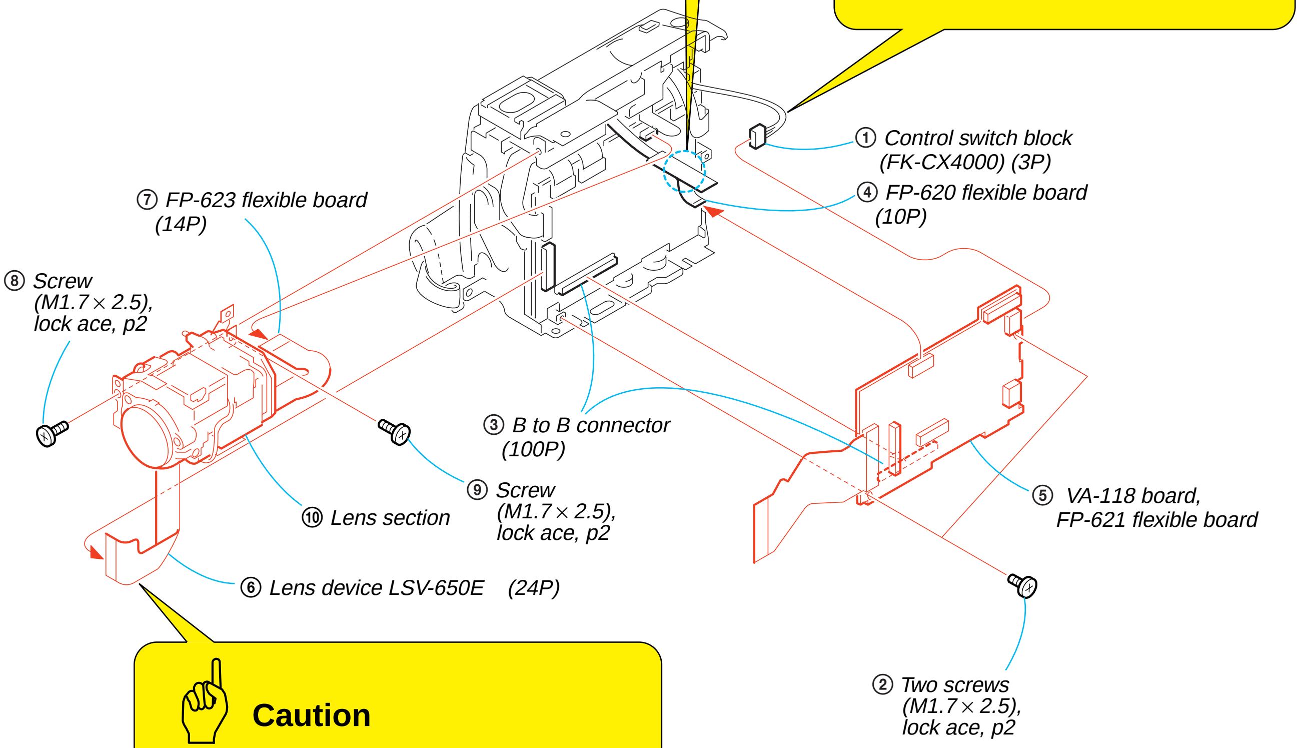
When attach the Tape (A), fold the FP-620 flexible board as shown in the illustration.


Tape (A)
FP-620 flexible board

Caution

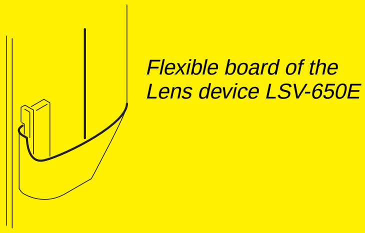
Fold the harness of the control switch block (FK-CX4000) toward the board as shown in the illustration.


Harness of the Control switch block (FK-CX4000)

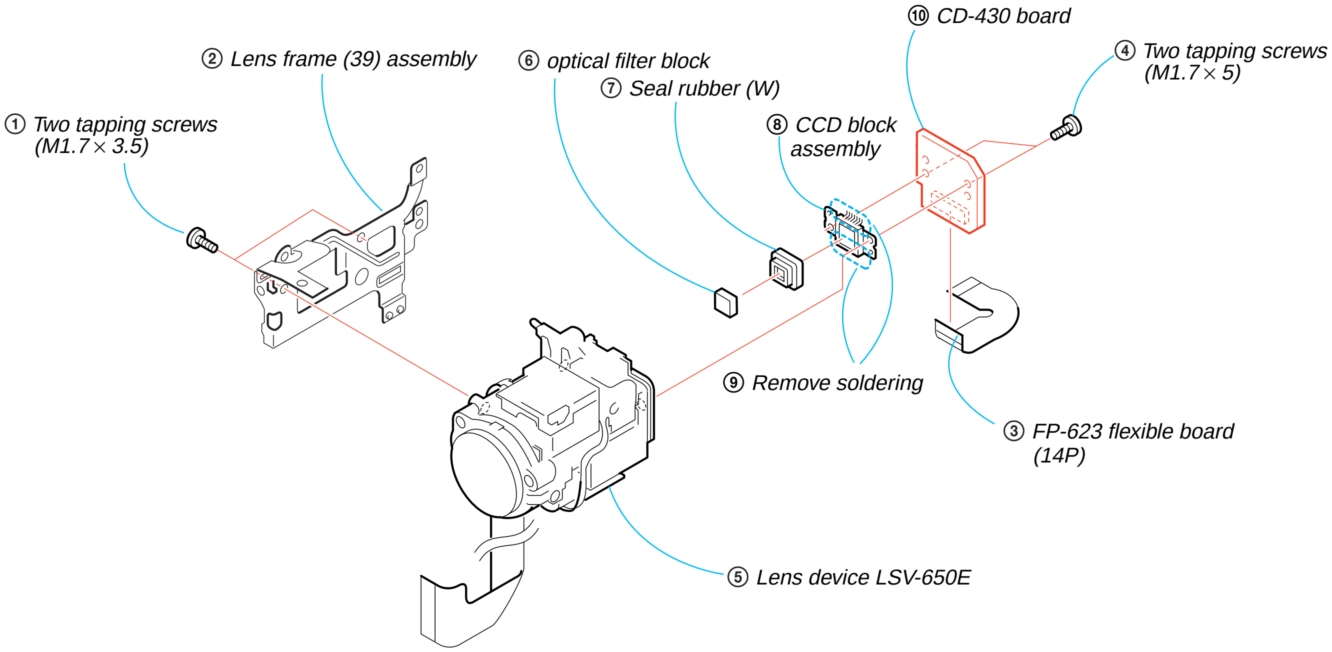

① Control switch block (FK-CX4000) (3P)
④ FP-620 flexible board (10P)
⑦ FP-623 flexible board (14P)
⑧ Screw (M1.7 × 2.5), lock ace, p2
③ B to B connector (100P)
⑨ Screw (M1.7 × 2.5), lock ace, p2
⑩ Lens section
⑤ VA-118 board, FP-621 flexible board
⑥ Lens device LSV-650E (24P)
② Two screws (M1.7 × 2.5), lock ace, p2

Caution

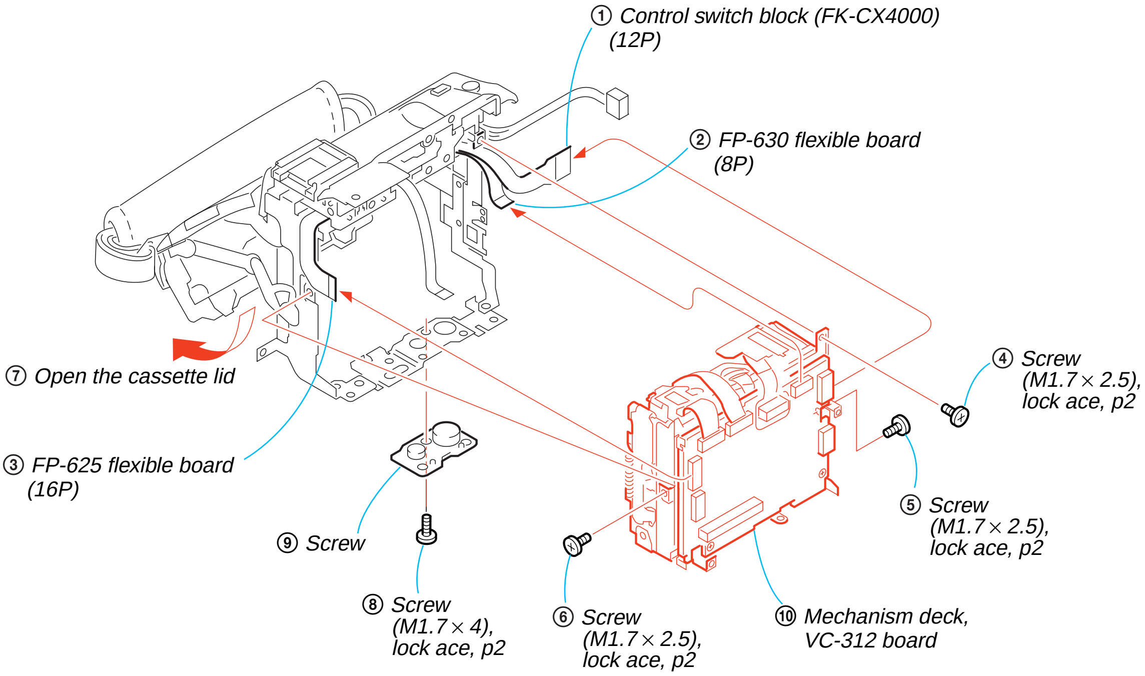
When installing, the flexible board of the Lens device 650E as shown in the illustration.


Flexible board of the Lens device LSV-650E

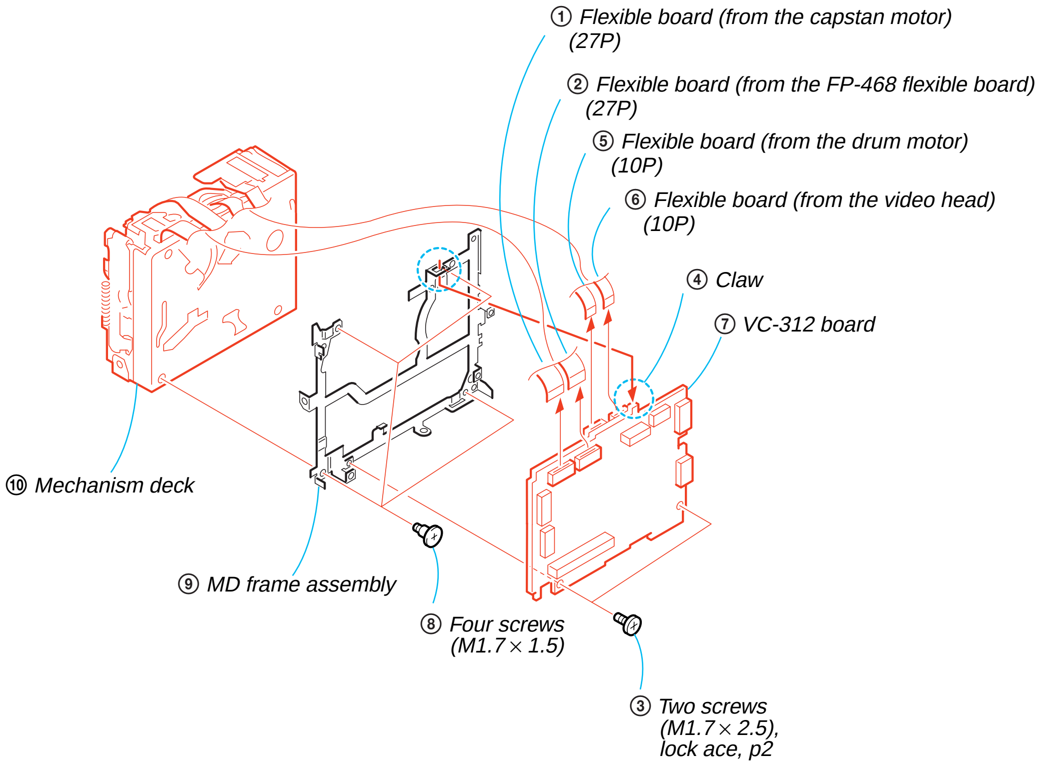
2-15. CD-430 BOARD


⑩ CD-430 board
④ Two tapping screws
(M1.7 × 5)
② Lens frame (39) assembly
⑥ optical filter block
⑦ Seal rubber (W)
⑧ CCD block
assembly
① Two tapping screws
(M1.7 × 3.5)
⑨ Remove soldering
③ FP-623 flexible board
(14P)
⑤ Lens device LSV-650E

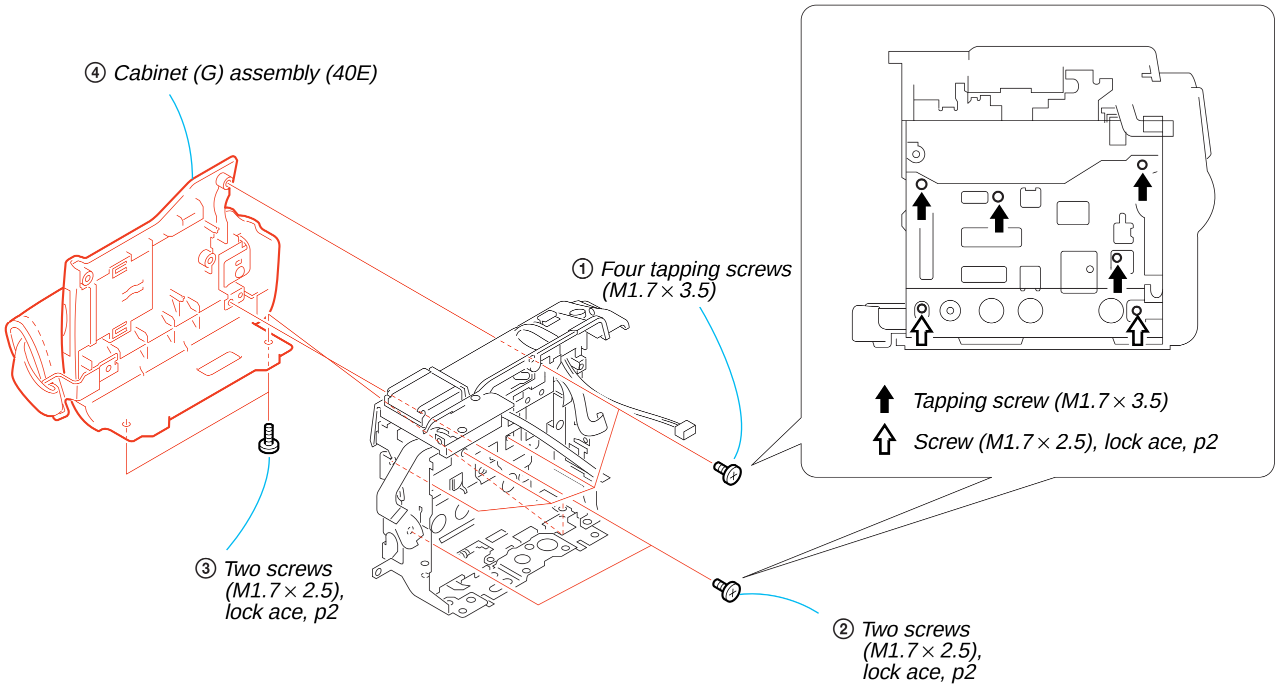
2-16. MECHANISM DECK, VC-312 BOARD (1)


① Control switch block (FK-CX4000)
(12P)
② FP-630 flexible board
(8P)
④ Screw
(M1.7 × 2.5),
lock ace, p2
⑦ Open the cassette lid
③ FP-625 flexible board
(16P)
⑤ Screw
(M1.7 × 2.5),
lock ace, p2
⑨ Screw
⑧ Screw
(M1.7 × 4),
lock ace, p2
⑥ Screw
(M1.7 × 2.5),
lock ace, p2
⑩ Mechanism deck,
VC-312 board

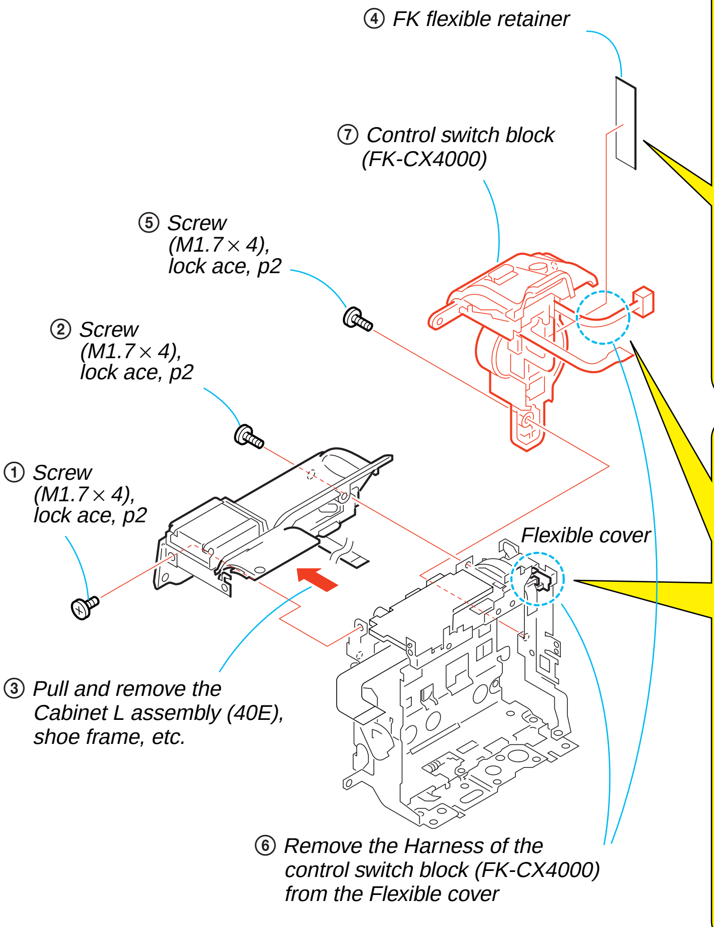
2-17. MECHANISM DECK, VC-312 BOARD (2)


① Flexible board (from the capstan motor) (27P)
② Flexible board (from the FP-468 flexible board) (27P)
⑤ Flexible board (from the drum motor) (10P)
⑥ Flexible board (from the video head) (10P)
④ Claw
⑦ VC-312 board
⑩ Mechanism deck
⑨ MD frame assembly
⑧ Four screws (M1.7 × 1.5)
③ Two screws (M1.7 × 2.5), lock ace, p2

2-18. CABINET (G) ASSEMBLY (40E)

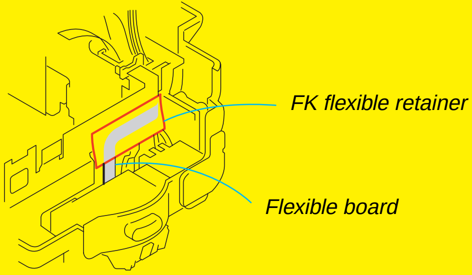

④ Cabinet (G) assembly (40E)
① Four tapping screws (M1.7 × 3.5)
Tapping screw (M1.7 × 3.5)
Screw (M1.7 × 2.5), lock ace, p2
③ Two screws (M1.7 × 2.5), lock ace, p2
② Two screws (M1.7 × 2.5), lock ace, p2

2-19. CONTROL SWITCH BLOCK (FK-CX4000)


④ FK flexible retainer
⑦ Control switch block
(FK-CX4000)
⑤ Screw
(M1.7 × 4),
lock ace, p2
② Screw
(M1.7 × 4),
lock ace, p2
① Screw
(M1.7 × 4),
lock ace, p2
Flexible cover
③ Pull and remove the
Cabinet L assembly (40E),
shoe frame, etc.
⑥ Remove the Harness of the
control switch block (FK-CX4000)
from the Flexible cover

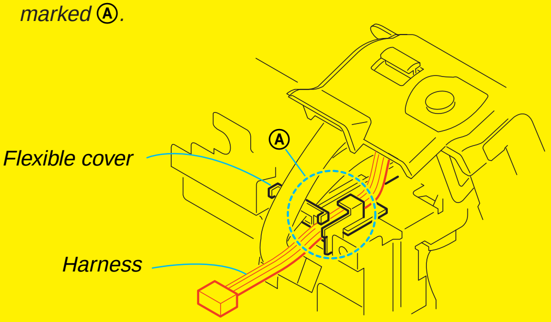
Caution

When installing, fix the flexible board of the Control switch block (FK-CX4000) with the FK flexible retainer as shown in the illustration.

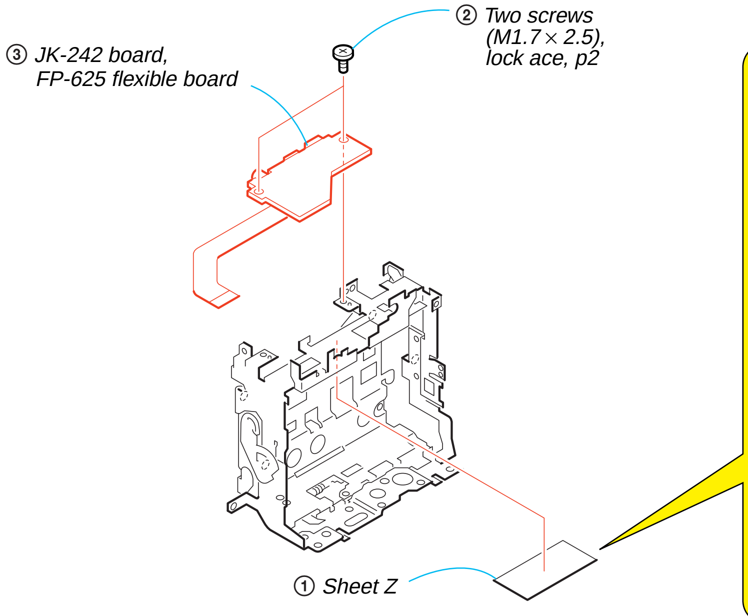

FK flexible retainer
Flexible board

Caution

When installing, pass harness of the Control switch block (FK-CX4000) the through the Flexible cover by the marked Ⓐ.

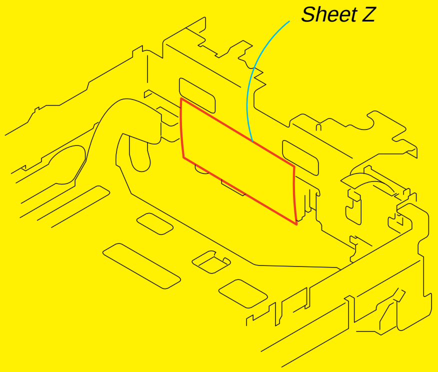

Flexible cover
Ⓐ
Harness

2-20. JK-242 BOARD


③ JK-242 board,
FP-625 flexible board
② Two screws
(M1.7 × 2.5),
lock ace, p2
① Sheet Z

Caution

Install the Sheet Z as shown in the illustration.



[SERVICE POSITION TO CHECK THE VTR SECTION]

Connection to Check the VTR Section

To check the VTR section, set the VTR to the “Forced VTR power ON” mode.
Operate the VTR functions using the adjustment remote commander (with the HOLD switch set in the OFF position).

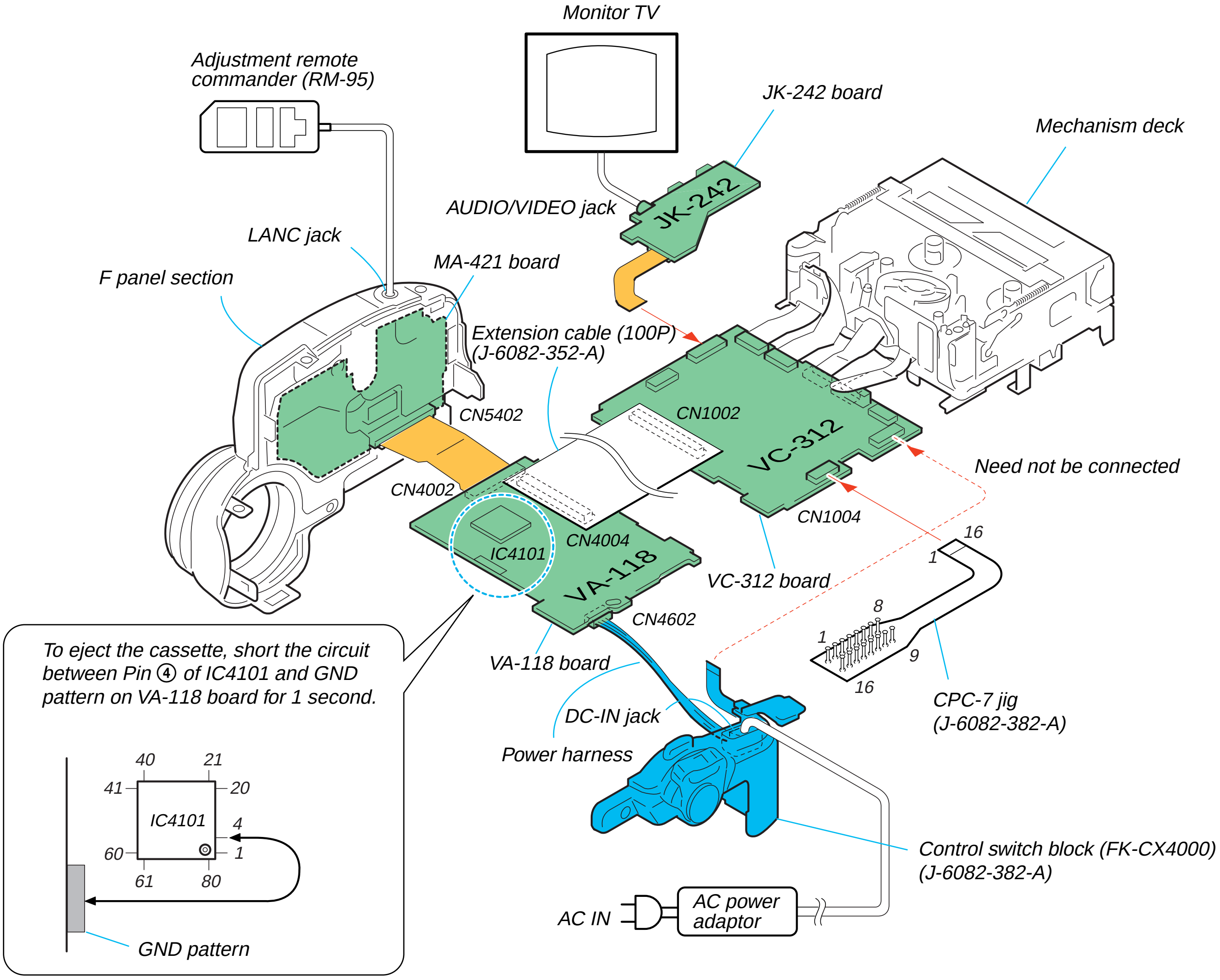
Setting the Forced VTR Power ON mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 00.
3) Select page: D, address: 10, set data: 02, and press the PAUSE button of the adjustment remote commander.

Exiting the Forced VTR Power ON mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 00.
3) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 00.

(To eject the cassette, short the circuit between Pin ④ of IC4101 and GND pattern on VA-118 board for 1 second.)

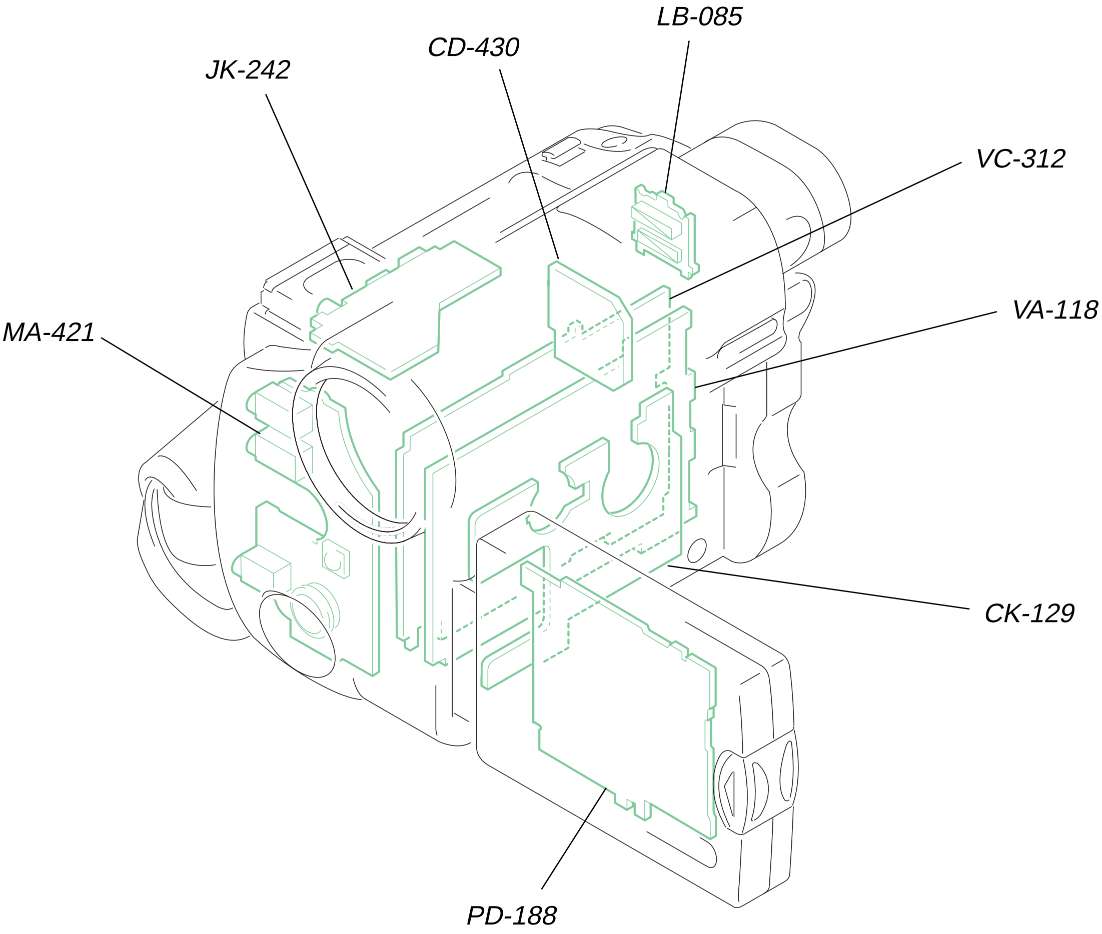

Monitor TV
Adjustment remote commander (RM-95)
JK-242 board
Mechanism deck
JK-242
AUDIO/VIDEO jack
LANC jack
MA-421 board
F panel section
Extension cable (100P) (J-6082-352-A)
CN5402
CN1002
VC-312
Need not be connected
CN4002
CN1004
IC4101
CN4004
VA-118
16
1
VC-312 board
8
CN4602
1
9
16
VA-118 board
CPC-7 jig (J-6082-382-A)
DC-IN jack
Power harness
40
21
41
20
IC4101
4
60
1
61
80
GND pattern
Control switch block (FK-CX4000) (J-6082-382-A)
AC IN
AC power adaptor

To eject the cassette, short the circuit between Pin ④ of IC4101 and GND pattern on VA-118 board for 1 second.

PROCEDURE OF REMOVING THE MECHANISM DECK.
(VTR CHECK SERVICE POSITION)

① 2-2. CABINET (R) COVER (39E) ASSEMBLY .... (page 2-4)
② 2-3. F PANEL SECTION .... (page 2-5)
③ 2-5. CABINET (R) SECTION ....(page 2-7)
④ 2-10. BT PANEL/EVF SECTION .... (page 2-11)
⑤ 2-14. VA-118 BOARD, LENS SECTION .... (page 2-15)
⑥ 2-16. MECHANISM DECK, VC-312 BOARD (1) .... (page 2-16)
⑦ 2-17. MECHANISM DECK, VC-312 BOARD (2) .... (page 2-17)
⑧ 2-18. CABINET (G) ASSEMBLY (40E) .... (page 2-17)
⑨ 2-19. CONTROL SWITCH BLOCK (FK-CX4000).... (page 2-18)
⑩ 2-20. JK-242 BOARD .... (page 2-18)

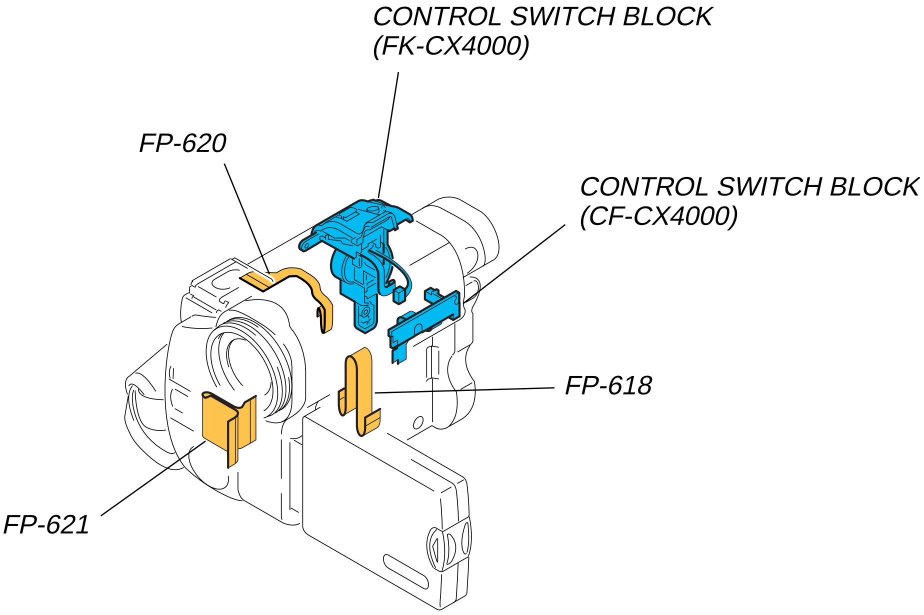
2-21. CIRCUIT BOARDS LOCATION

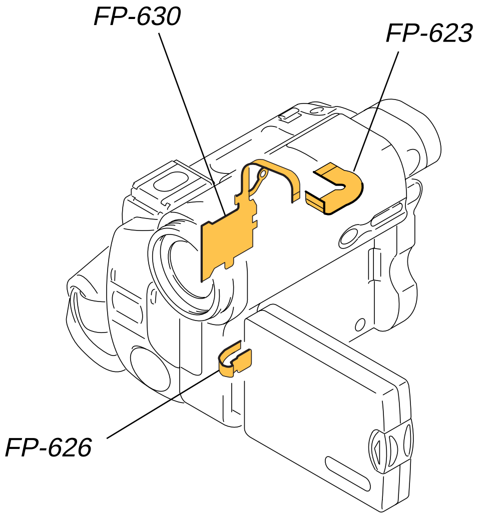

LB-085
CD-430
JK-242
VC-312
VA-118
MA-421
CK-129
PD-188

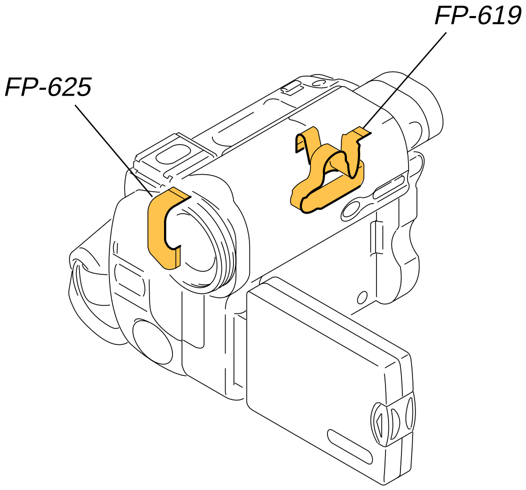
NAME	FUNCTION
CD-430	*CCD IMAGER*
CK-129	*FUNCTION SWITCH*
JK-242	*RELAY*
LB-085	*EVF, BACKLIGHT*
MA-421	*MIC AMP, Y/P SENSOR, V/A IN/OUT*
PD-188	*RGB DRIVE, TIMING GENE, BACKLIGHT*
VA-118	*RGB DRIVE, HI CONTROL, Y/P SENSOR AMP, POWER IN, CHARGE, CONNECTOR*
VC-312	*CAMERA A/D CONV., TIMING GENERATOR, LENS DRIVE, MPEG/DV STILL PROCESSOR, SERVO, AUDIO, CAMERA/MECHA/HI CONTROL, CONNECTOR*

2-22. FLEXIBLE BOARDS LOCATION

The flexible boards contained in the mechanism deck and that in the lens device are not shown.


CONTROL SWITCH BLOCK
(FK-CX4000)
FP-620
CONTROL SWITCH BLOCK
(CF-CX4000)
FP-618
FP-621


FP-630
FP-623
FP-626

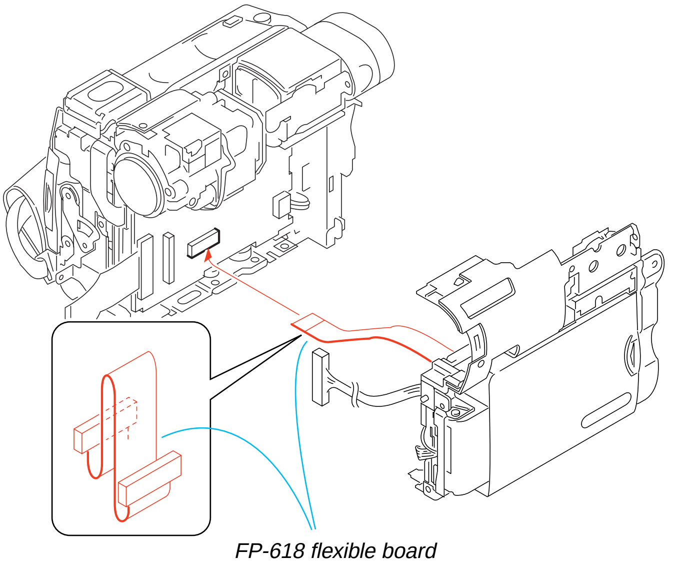

FP-619
FP-625

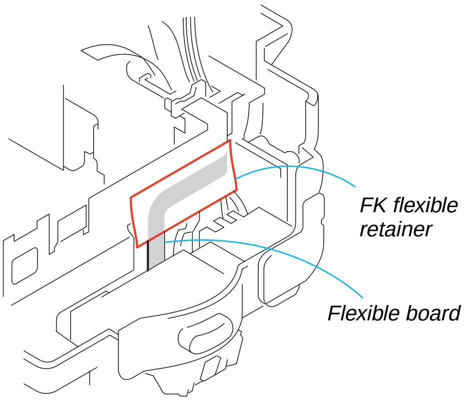
4/Feb/2003

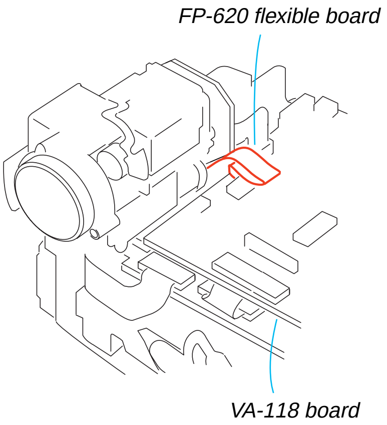
HELP

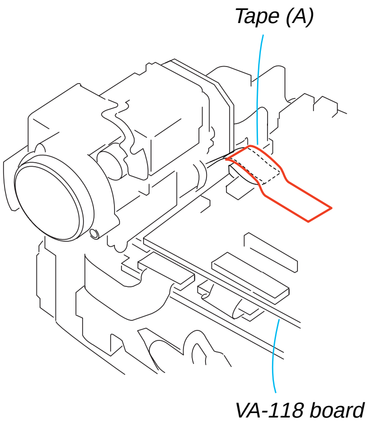
Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

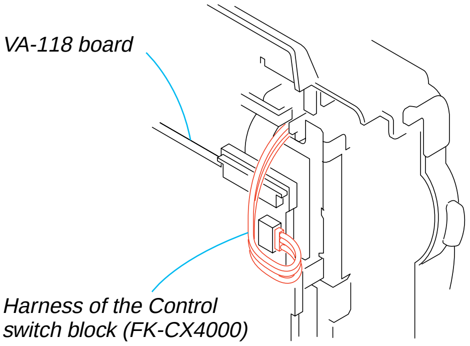
OVERALL SECTION -1

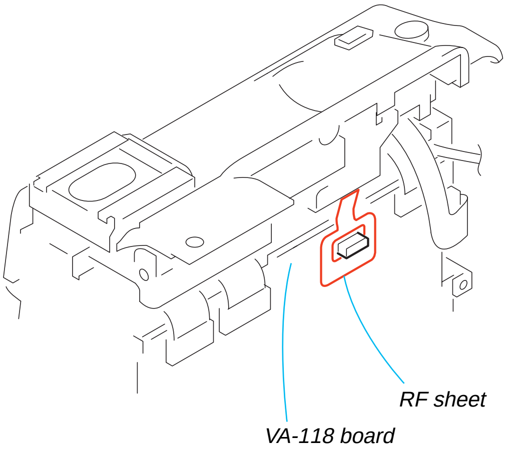

FP-618 flexible board


FK flexible retainer
Flexible board

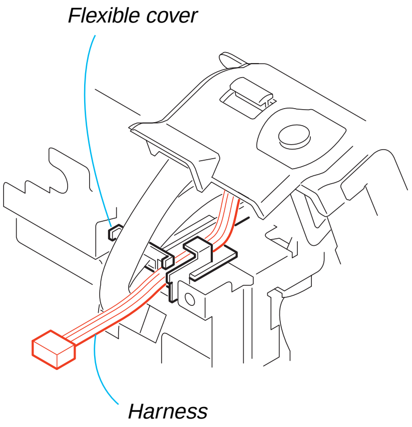

FP-620 flexible board
VA-118 board


Tape (A)
VA-118 board

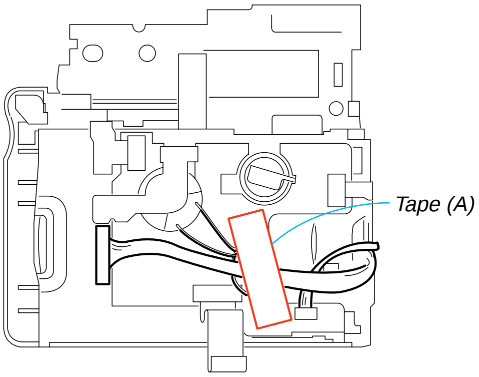

VA-118 board
Harness of the Control switch block (FK-CX4000)


RF sheet
VA-118 board

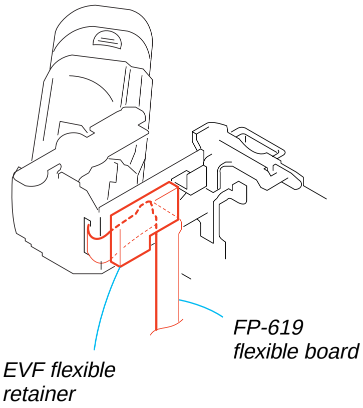
OVERALL SECTION -2

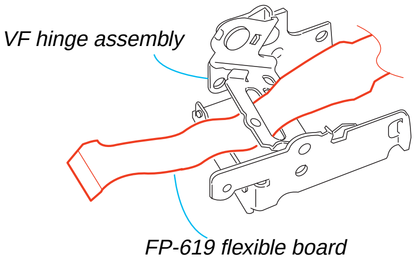

Flexible cover
Harness

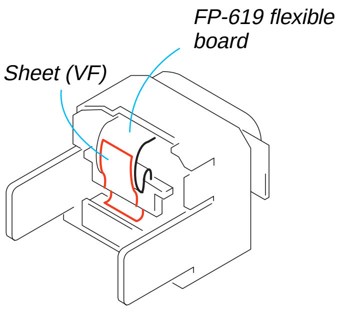
CABINET R SECTION

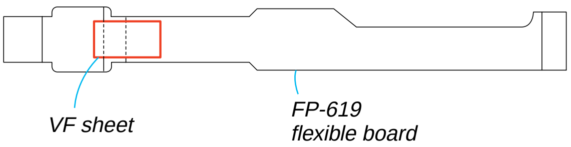


BT PANEL/EVF SECTION

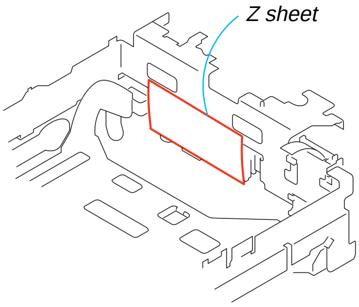

FP-619
flexible board
EVF flexible
retainer

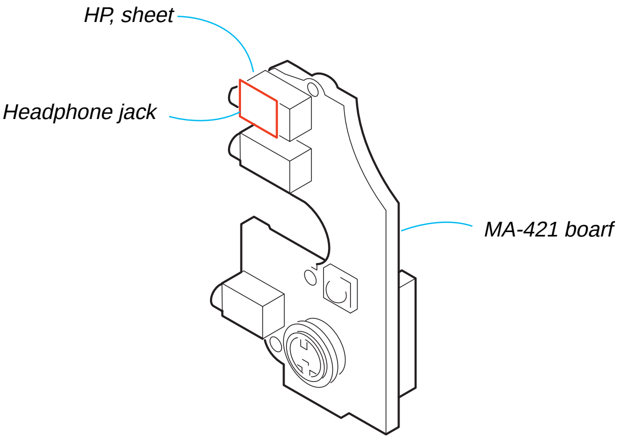

VF hinge assembly
FP-619 flexible board


FP-619 flexible
board
Sheet (VF)


VF sheet
FP-619
flexible board

CABINET L SECTION




HP, sheet
Headphone jack
MA-421 boarf

COVER

3. BLOCK DIAGRAMS

Link

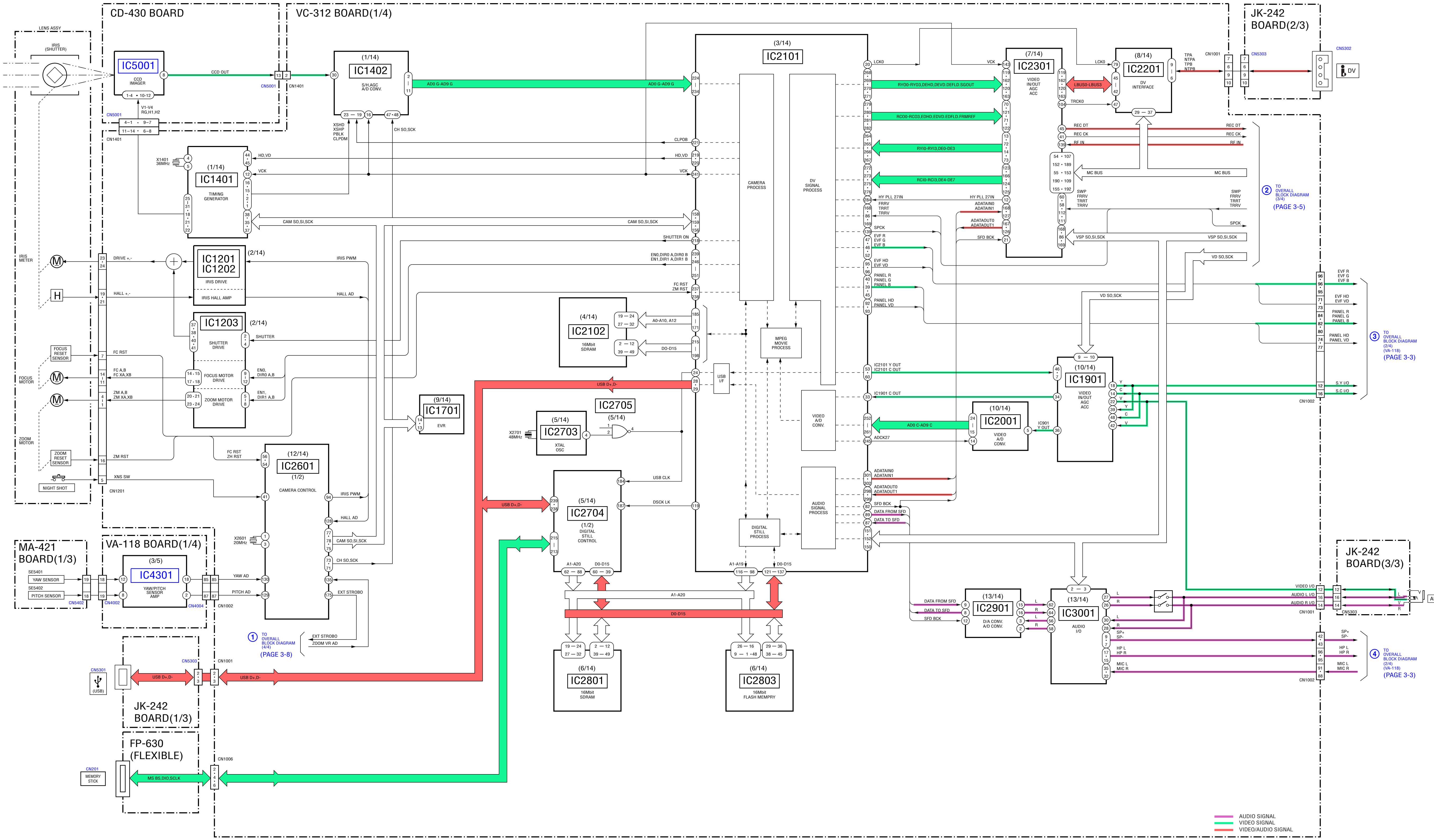
OVERALL BLOCK DIAGRAM (1/4)	POWER BLOCK DIAGRAM (1/2)
OVERALL BLOCK DIAGRAM (2/4)	POWER BLOCK DIAGRAM (2/2)
OVERALL BLOCK DIAGRAM (3/4)	
OVERALL BLOCK DIAGRAM (4/4)	

COVER

SECTION 3
BLOCK DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM (1/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

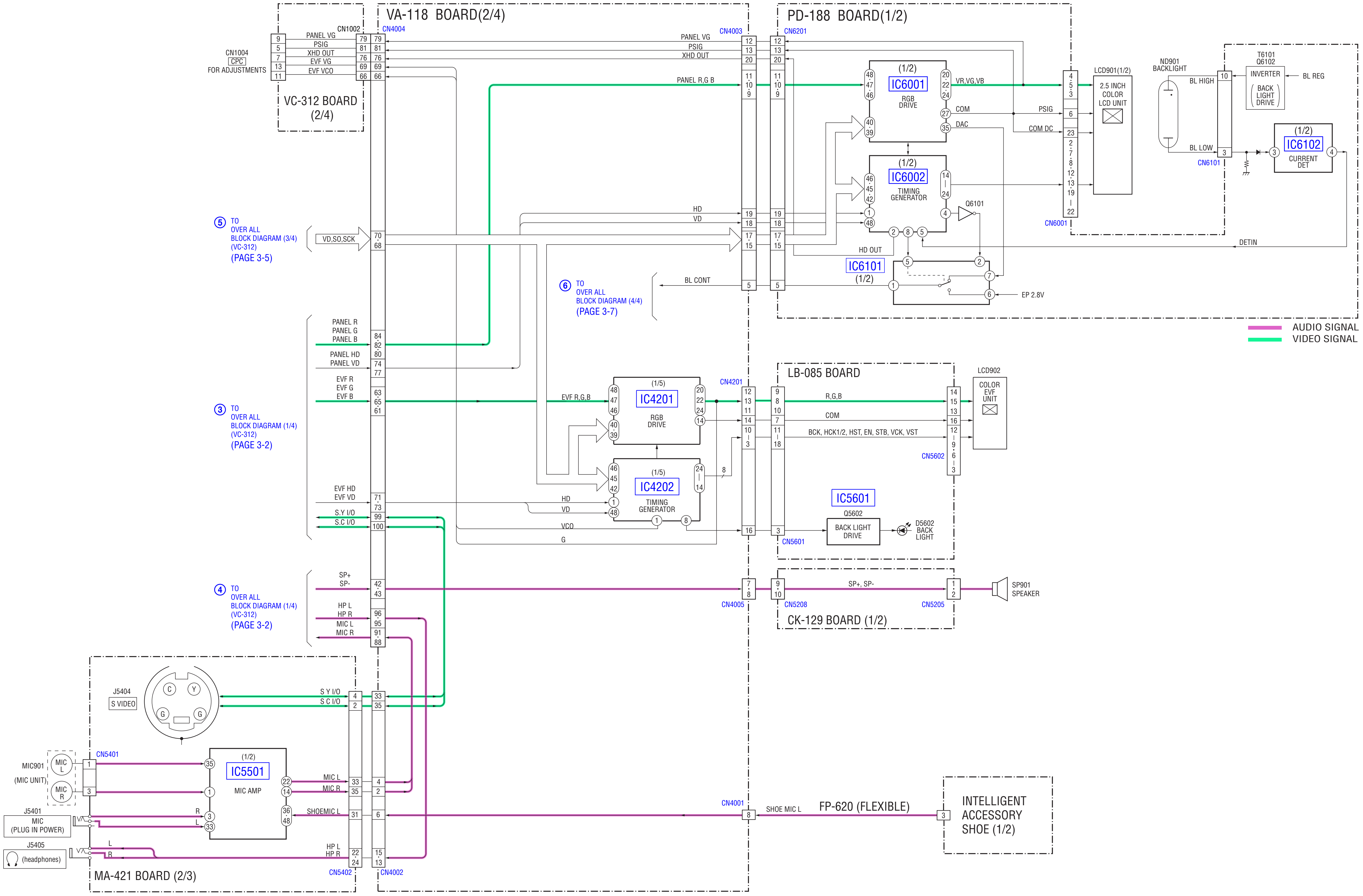


LENS ASSY
IRIS (SHUTTER)
IRIS METER
FOCUS RESET SENSOR
FOCUS MOTOR
ZOOM MOTOR
ZOOM RESET SENSOR
NIGHT SHOT
CD-430 BOARD
IC5001 CCD IMAGER
CCD OUT
CN5001
CN1401
VC-312 BOARD(1/4)
(1/14) IC1402 S/H,AGC A/D CONV.
AD0 G-AD9 G
(1/14) IC1401 TIMING GENERATOR
X1401 36MHz
HD,VD
VCK
CAM SO,SI,SCK
CLPOB
SHUTTER ON
IC1201 IC1202 (2/14) IRIS DRIVE IRIS HALL AMP
DRIVE +,-
HALL +,-
IRIS PWM
HALL AD
IC1203 (2/14) SHUTTER DRIVE
FOCUS MOTOR DRIVE
ZOOM MOTOR DRIVE
FC RST
FC A,B FC XA,XB
ZM A,B ZM XA,XB
ZM RST
XNS SW
CN1201
(9/14) IC1701 EVR
(3/14) IC2101
CAMERA PROCESS
DV SIGNAL PROCESS
MPEG MOVIE PROCESS
VIDEO A/D CONV.
AUDIO SIGNAL PROCESS
DIGITAL STILL PROCESS
USB I/F
(4/14) IC2102 16Mbit SDRAM
A0-A10, A12
D0-D15
IC2705 (5/14)
(5/14) IC2703 XTAL OSC
X2701 48MHz
(5/14) IC2704 (1/2) DIGITAL STILL CONTROL
USB CLK
DSCK LK
USB D+,D-
(12/14) IC2601 (1/2) CAMERA CONTROL
X2601 20MHz
EXT STROBO
ZOOM VR AD
YAW AD
PITCH AD
CH SO,SCK
(7/14) IC2301 VIDEO IN/OUT AGC ACC
RY00-RY03,DEHD,DEVD,DEFLD,SGOUT
RC00-RC03,EDHD,EDVD,EDFLD,FRMREF
RYI0-RYI3,DEI0-DEI3
RCI0-RCI3,DEI4-DEI7
(8/14) IC2201 DV INTERFACE
LBUS0-LBUS3
TRCK0
LCK0
REC DT
REC CK
RF IN
MC BUS
SWP FRRV TRRT TRRV
SPCK
VSP SO,SI,SCK
VD SO,SCK
HY PLL 27IN
ADATAIN0 ADATAIN1
ADATAOUT0 ADATAOUT1
SFD BCK
EVF R EVF G EVF B
EVF HD EVF VD
PANEL R PANEL G PANEL B
PANEL HD PANEL VD
IC2101 Y OUT IC2101 C OUT
IC1901 C OUT
(10/14) IC1901 VIDEO IN/OUT AGC ACC
(10/14) IC2001 VIDEO A/D CONV.
AD0 C-AD9 C
ADCK27
IC901 Y OUT
S,Y I/O
S,C I/O
DATA FROM SFD
DATA TO SFD
(13/14) IC2901 D/A CONV. A/D CONV.
(13/14) IC3001 AUDIO I/O
VIDEO I/O
AUDIO L I/O
AUDIO R I/O
SP+ SP-
HP L HP R
MIC L MIC R
A1-A20
D0-D15
(6/14) IC2801 16Mbit SDRAM
(6/14) IC2803 16Mbit FLASH MEMPRY
JK-242 BOARD(2/3)
CN5302
DV
TPA NTPA TPB NTPB
CN1001
CN5303
② TO OVERALL BLOCK DIAGRAM (3/4) (PAGE 3-5)
③ TO OVERALL BLOCK DIAGRAM (2/4) (VA-118) (PAGE 3-3)
④ TO OVERALL BLOCK DIAGRAM (2/4) (VA-118) (PAGE 3-3)
① TO OVERALL BLOCK DIAGRAM (4/4) (PAGE 3-8)
CN1002
JK-242 BOARD(3/3)
J5301 AUDIO/VIDEO
MA-421 BOARD(1/3)
SE5401 YAW SENSOR
SE5402 PITCH SENSOR
CN5402
VA-118 BOARD(1/4)
(3/5) IC4301 YAW/PITCH SENSOR AMP
CN4002
CN4004
CN1002
JK-242 BOARD(1/3)
CN5301 (USB)
CN5303
CN1001
FP-630 (FLEXIBLE)
CN201 MEMORY STICK
MS BS,DIO,SCLK
CN1006
AUDIO SIGNAL
VIDEO SIGNAL
VIDEO/AUDIO SIGNAL

COVER

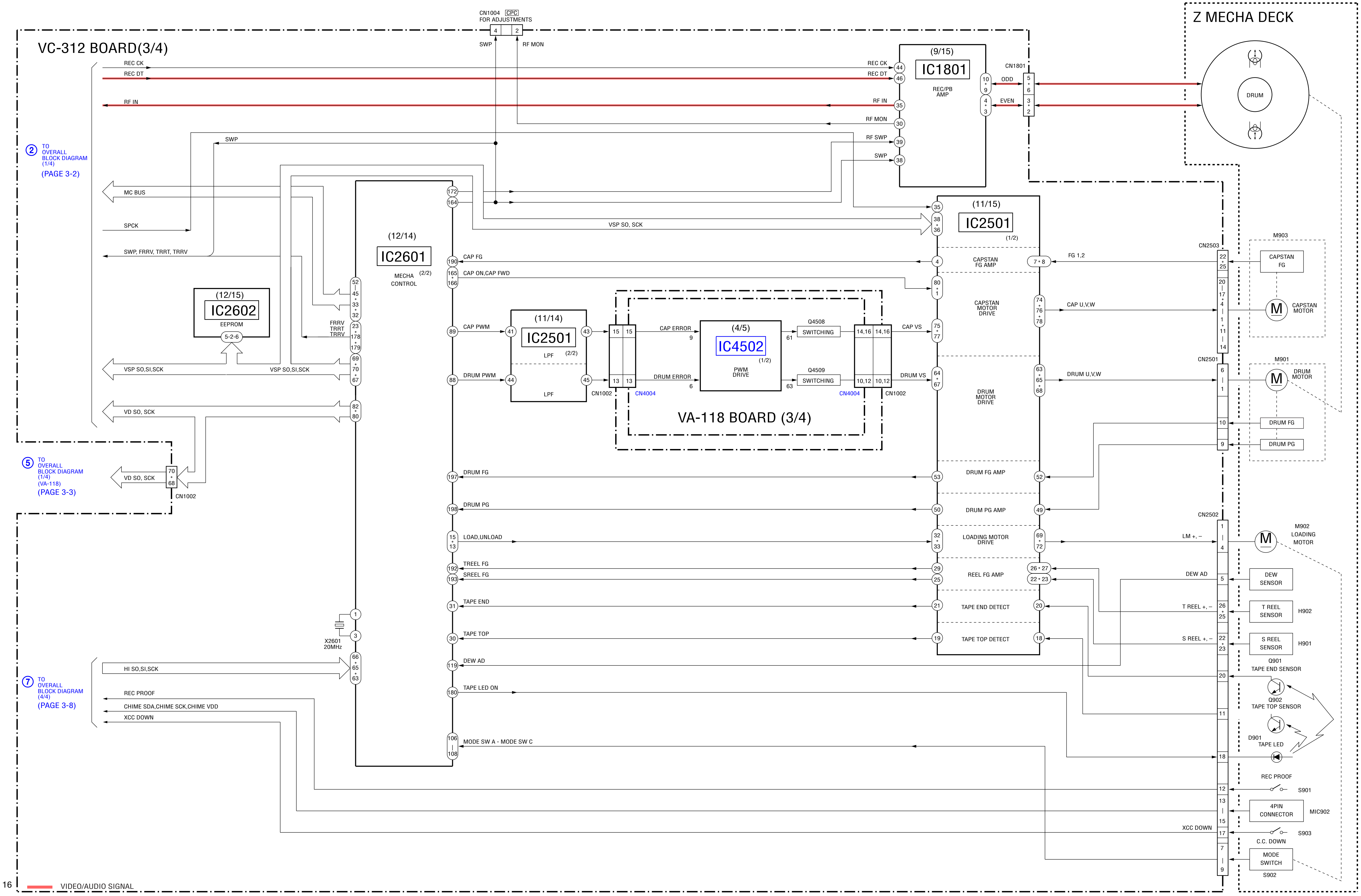
3-2. OVERALL BLOCK DIAGRAM (2/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.


VC-312 BOARD (2/4)
CN1002
CN1004
CPC
FOR ADJUSTMENTS
PANEL VG
PSIG
XHD OUT
EVF VG
EVF VCO
VA-118 BOARD(2/4)
CN4004
CN4003
PANEL R,G B
HD
VD
VD,SO,SCK
BL CONT
PD-188 BOARD(1/2)
CN6201
(1/2)
IC6001
RGB DRIVE
VR,VG,VB
COM
DAC
(1/2)
IC6002
TIMING GENERATOR
Q6101
HD OUT
IC6101
(1/2)
EP 2.8V
CN6001
LCD901(1/2)
2.5 INCH COLOR LCD UNIT
PSIG
COM DC
ND901 BACKLIGHT
BL HIGH
BL LOW
CN6101
T6101 Q6102
INVERTER
BACK LIGHT DRIVE
BL REG
(1/2)
IC6102
CURRENT DET
DETIN
AUDIO SIGNAL
VIDEO SIGNAL
⑤ TO OVER ALL BLOCK DIAGRAM (3/4) (VC-312) (PAGE 3-5)
⑥ TO OVER ALL BLOCK DIAGRAM (4/4) (PAGE 3-7)
③ TO OVER ALL BLOCK DIAGRAM (1/4) (VC-312) (PAGE 3-2)
④ TO OVER ALL BLOCK DIAGRAM (1/4) (VC-312) (PAGE 3-2)
PANEL R
PANEL G
PANEL B
PANEL HD
PANEL VD
EVF R
EVF G
EVF B
EVF HD
EVF VD
S.Y I/O
S.C I/O
EVF R,G,B
(1/5)
IC4201
RGB DRIVE
(1/5)
IC4202
TIMING GENERATOR
HD
VD
VCO
G
CN4201
LB-085 BOARD
R,G,B
COM
BCK, HCK1/2, HST, EN, STB, VCK, VST
CN5602
LCD902
COLOR EVF UNIT
IC5601
Q5602
BACK LIGHT DRIVE
D5602 BACK LIGHT
CN5601
SP+
SP-
HP L
HP R
MIC L
MIC R
CN4005
SP+, SP-
CN5208
CN5205
SP901 SPEAKER
CK-129 BOARD (1/2)
J5404
S VIDEO
C
Y
G
G
S Y I/O
S C I/O
MIC901
(MIC UNIT)
MIC L
MIC R
CN5401
(1/2)
IC5501
MIC AMP
MIC L
MIC R
SHOEMIC L
J5401
MIC (PLUG IN POWER)
R
L
J5405
(headphones)
HP L
HP R
CN5402
CN4002
MA-421 BOARD (2/3)
CN4001
SHOE MIC L
FP-620 (FLEXIBLE)
INTELLIGENT ACCESSORY SHOE (1/2)

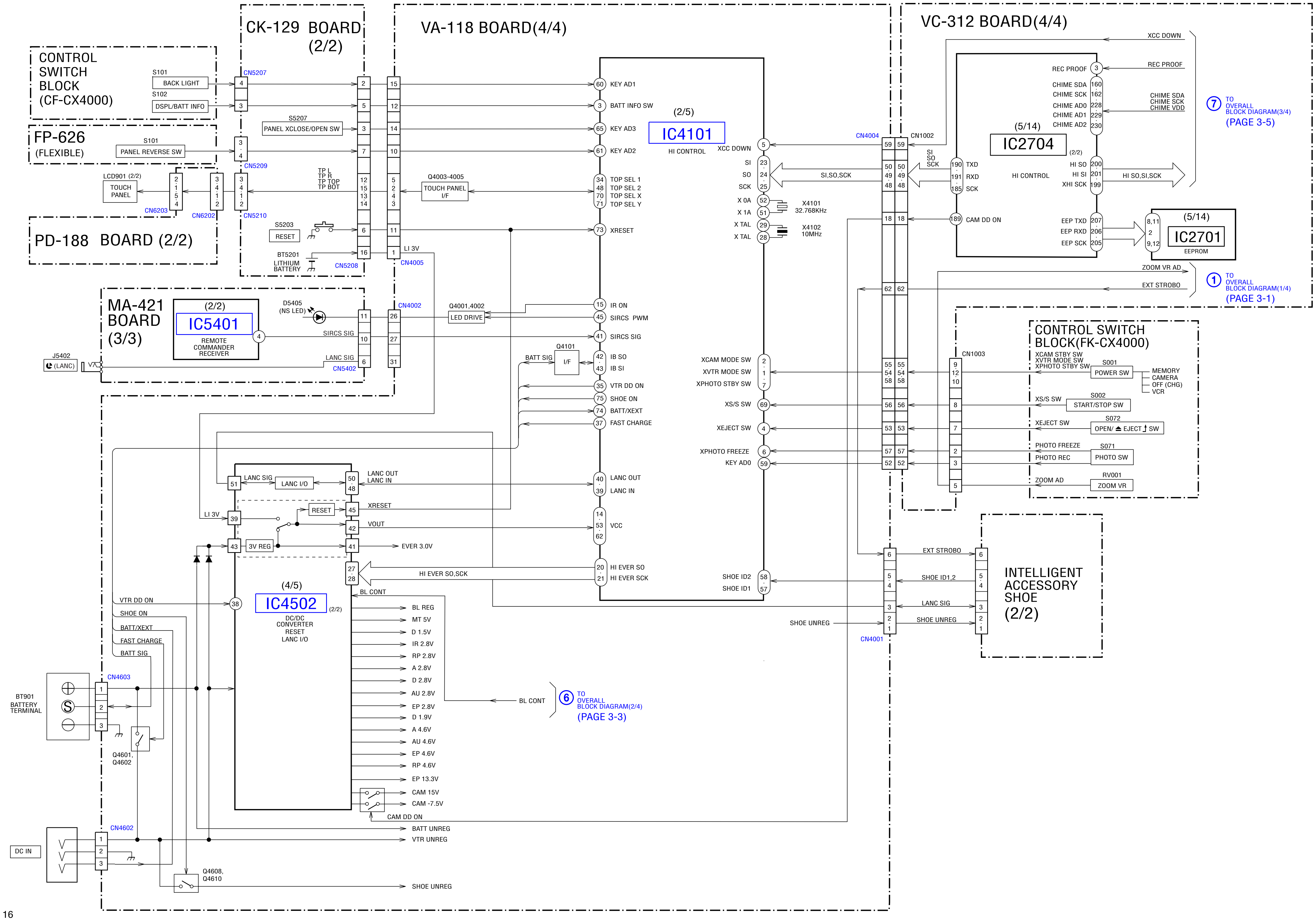
3-3. OVERALL BLOCK DIAGRAM (3/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.


VC-312 BOARD(3/4)
CN1004 CPC FOR ADJUSTMENTS
SWP
RF MON
Z MECHA DECK
DRUM
REC CK
REC DT
RF IN
RF MON
RF SWP
SWP
(9/15) IC1801 REC/PB AMP
CN1801
ODD
EVEN
② TO OVERALL BLOCK DIAGRAM (1/4) (PAGE 3-2)
MC BUS
SPCK
SWP, FRRV, TRRT, TRRV
VSP SO, SCK
(12/14) IC2601 MECHA CONTROL (2/2)
(12/15) IC2602 EEPROM
FRRV TRRT TRRV
VSP SO,SI,SCK
VD SO, SCK
CAP FG
CAP ON,CAP FWD
CAP PWM
DRUM PWM
(11/14) IC2501 (2/2) LPF
CN1002
CN4004
(4/5) IC4502 (1/2) PWM DRIVE
CAP ERROR
DRUM ERROR
Q4508 SWITCHING
Q4509 SWITCHING
CAP VS
DRUM VS
VA-118 BOARD (3/4)
(11/15) IC2501 (1/2)
CAPSTAN FG AMP
CAPSTAN MOTOR DRIVE
DRUM MOTOR DRIVE
FG 1,2
CAP U,V,W
DRUM U,V,W
CN2503
CN2501
M903 CAPSTAN FG CAPSTAN MOTOR
M901 DRUM MOTOR
DRUM FG
DRUM PG
⑤ TO OVERALL BLOCK DIAGRAM (1/4) (VA-118) (PAGE 3-3)
VD SO, SCK
CN1002
DRUM FG
DRUM PG
DRUM FG AMP
DRUM PG AMP
LOAD,UNLOAD
LOADING MOTOR DRIVE
CN2502
LM +, –
M902 LOADING MOTOR
TREEL FG
SREEL FG
REEL FG AMP
DEW AD
DEW SENSOR
TAPE END
TAPE END DETECT
T REEL +, –
T REEL SENSOR H902
TAPE TOP
TAPE TOP DETECT
S REEL +, –
S REEL SENSOR H901
X2601 20MHz
DEW AD
Q901 TAPE END SENSOR
Q902 TAPE TOP SENSOR
D901 TAPE LED
⑦ TO OVERALL BLOCK DIAGRAM (4/4) (PAGE 3-8)
HI SO,SI,SCK
REC PROOF
CHIME SDA,CHIME SCK,CHIME VDD
XCC DOWN
TAPE LED ON
MODE SW A - MODE SW C
REC PROOF S901
4PIN CONNECTOR MIC902
XCC DOWN
C.C. DOWN S903
MODE SWITCH S902
16
VIDEO/AUDIO SIGNAL

3-4. OVERALL BLOCK DIAGRAM (4/4)

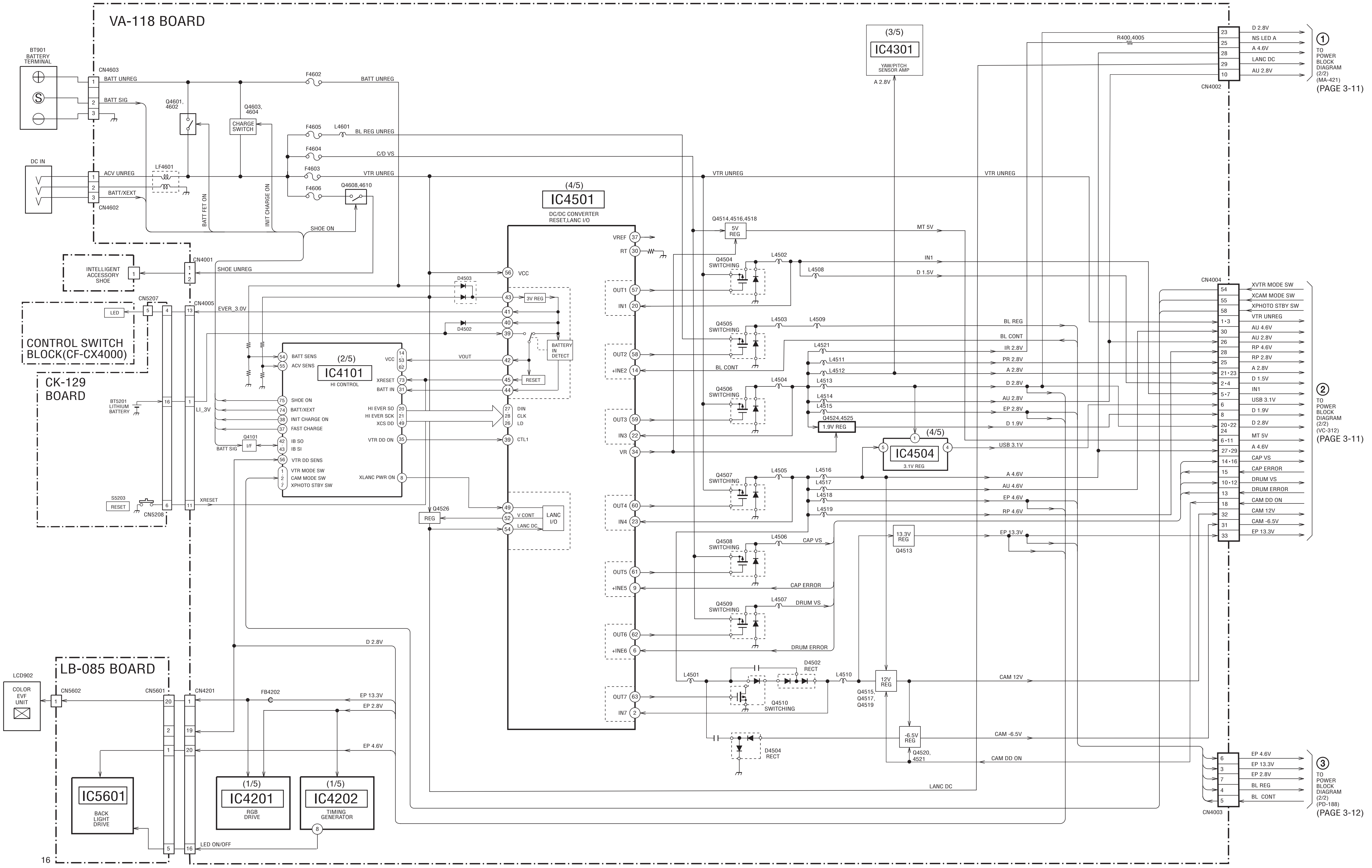
( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.


CONTROL SWITCH BLOCK (CF-CX4000)
S101 BACK LIGHT
S102 DSPL/BATT INFO
FP-626 (FLEXIBLE)
S101 PANEL REVERSE SW
LCD901 (2/2) TOUCH PANEL
CN6203
CN6202
PD-188 BOARD (2/2)
CK-129 BOARD (2/2)
CN5207
CN5209
CN5210
S5207 PANEL XCLOSE/OPEN SW
TP L
TP R
TP TOP
TP BOT
S5203 RESET
BT5201 LITHIUM BATTERY
CN5208
MA-421 BOARD (3/3)
(2/2) IC5401 REMOTE COMMANDER RECEIVER
D5405 (NS LED)
SIRCS SIG
LANC SIG
CN5402
J5402 (LANC)
VA-118 BOARD(4/4)
CN4005
CN4002
LI 3V
Q4003-4005 TOUCH PANEL I/F
Q4001,4002 LED DRIVE
Q4101 I/F
BATT SIG
(2/5) IC4101 HI CONTROL
KEY AD1
BATT INFO SW
KEY AD3
KEY AD2
TOP SEL 1
TOP SEL 2
TOP SEL X
TOP SEL Y
XRESET
IR ON
SIRCS PWM
SIRCS SIG
IB SO
IB SI
VTR DD ON
SHOE ON
BATT/XEXT
FAST CHARGE
LANC OUT
LANC IN
VCC
HI EVER SO
HI EVER SCK
XCC DOWN
SI
SO
SCK
X 0A
X 1A
X TAL
X TAL
X4101 32.768KHz
X4102 10MHz
XCAM MODE SW
XVTR MODE SW
XPHOTO STBY SW
XS/S SW
XEJECT SW
XPHOTO FREEZE
KEY AD0
SHOE ID2
SHOE ID1
SI,SO,SCK
CN4004
CN4001
(4/5) IC4502 (2/2) DC/DC CONVERTER RESET LANC I/O
LANC SIG
LANC I/O
LANC OUT
LANC IN
LI 3V
RESET
XRESET
VOUT
3V REG
EVER 3.0V
HI EVER SO,SCK
BL CONT
VTR DD ON
SHOE ON
BATT/XEXT
FAST CHARGE
BATT SIG
BL REG
MT 5V
D 1.5V
IR 2.8V
RP 2.8V
A 2.8V
D 2.8V
AU 2.8V
EP 2.8V
D 1.9V
A 4.6V
AU 4.6V
EP 4.6V
RP 4.6V
EP 13.3V
CAM 15V
CAM -7.5V
CAM DD ON
BATT UNREG
VTR UNREG
SHOE UNREG
CN4603
BT901 BATTERY TERMINAL
Q4601, Q4602
CN4602
DC IN
Q4608, Q4610
BL CONT
⑥ TO OVERALL BLOCK DIAGRAM(2/4) (PAGE 3-3)
VC-312 BOARD(4/4)
CN1002
(5/14) IC2704 HI CONTROL
REC PROOF
CHIME SDA
CHIME SCK
CHIME AD0
CHIME AD1
CHIME AD2
(2/2)
HI SO
HI SI
XHI SCK
TXD
RXD
SCK
CAM DD ON
EEP TXD
EEP RXD
EEP SCK
HI SO,SI,SCK
(5/14) IC2701 EEPROM
XCC DOWN
REC PROOF
CHIME SDA
CHIME SCK
CHIME VDD
⑦ TO OVERALL BLOCK DIAGRAM(3/4) (PAGE 3-5)
ZOOM VR AD
EXT STROBO
① TO OVERALL BLOCK DIAGRAM(1/4) (PAGE 3-1)
CN1003
CONTROL SWITCH BLOCK(FK-CX4000)
XCAM STBY SW
XVTR MODE SW
XPHOTO STBY SW
S001 POWER SW
MEMORY
CAMERA
OFF (CHG)
VCR
XS/S SW
S002 START/STOP SW
XEJECT SW
S072 OPEN/⏏ EJECT SW
PHOTO FREEZE
PHOTO REC
S071 PHOTO SW
ZOOM AD
RV001 ZOOM VR
EXT STROBO
SHOE ID1,2
LANC SIG
SHOE UNREG
INTELLIGENT ACCESSORY SHOE (2/2)

COVER

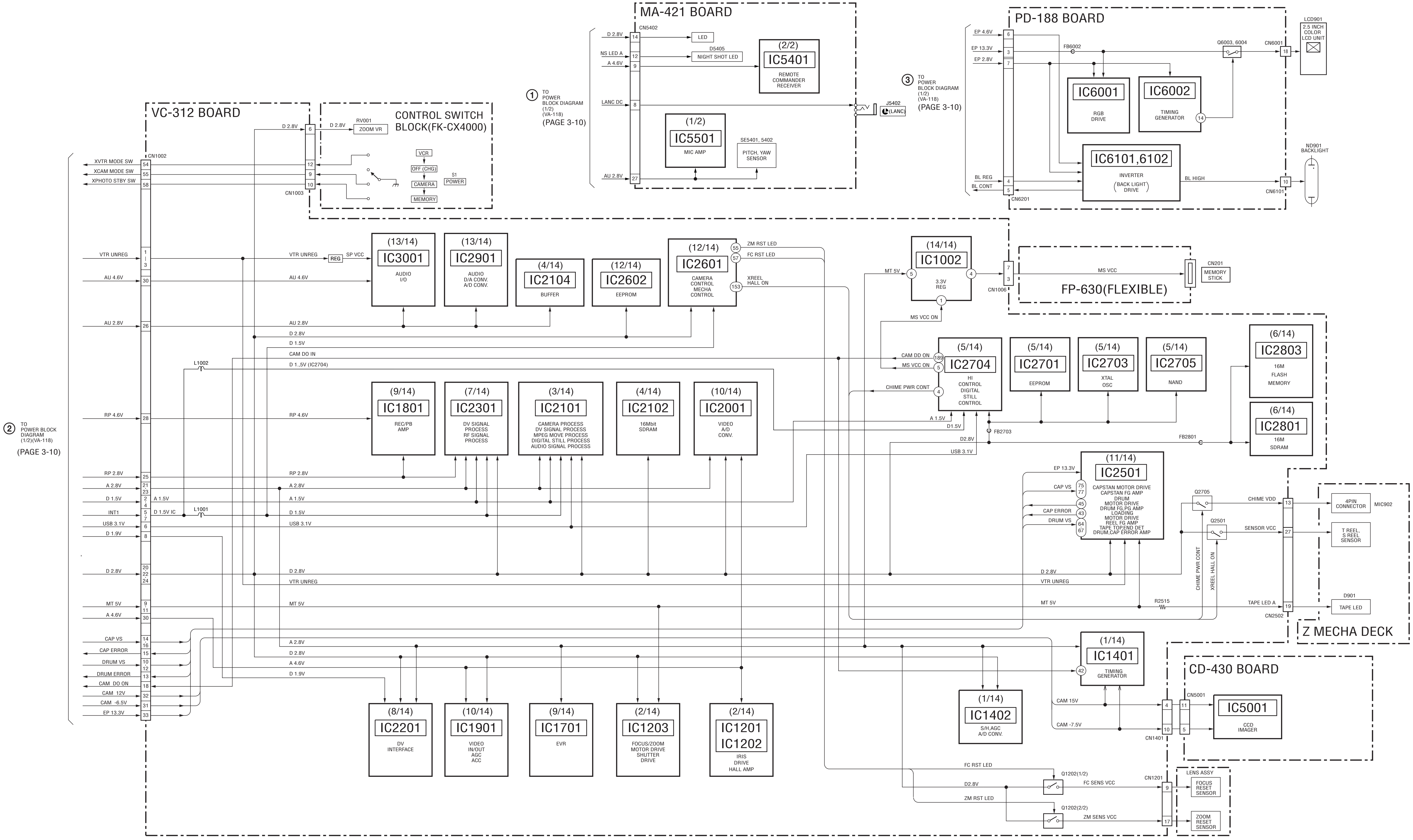
3-5. POWER BLOCK DIAGRAM (1/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.


VA-118 BOARD
BT901 BATTERY TERMINAL
CN4603
BATT UNREG
BATT SIG
Q4601, 4602
Q4603, 4604
CHARGE SWITCH
F4602
F4605
L4601
BL REG UNREG
F4604
C/D VS
F4603
VTR UNREG
F4606
Q4608,4610
DC IN
ACV UNREG
BATT/XEXT
LF4601
CN4602
BATT FET ON
INIT CHARGE ON
SHOE ON
INTELLIGENT ACCESSORY SHOE
CN4001
SHOE UNREG
CN5207
LED
CN4005
EVER_3.0V
CONTROL SWITCH BLOCK(CF-CX4000)
CK-129 BOARD
BT5201 LITHIUM BATTERY
LI_3V
S5203 RESET
CN5208
XRESET
(2/5)
IC4101
HI CONTROL
BATT SENS
ACV SENS
VCC
XRESET
BATT IN
SHOE ON
BATT/XEXT
INIT CHARGE ON
FAST CHARGE
Q4101
I/F
BATT SIG
IB SO
IB SI
VTR DD SENS
VTR MODE SW
CAM MODE SW
XPHOTO STBY SW
HI EVER SO
HI EVER SCK
XCS DD
VTR DD ON
XLANC PWR ON
VOUT
D4503
D4502
3V REG
BATTERY IN DETECT
RESET
Q4526
REG
(4/5)
IC4501
DC/DC CONVERTER RESET,LANC I/O
VCC
DIN
CLK
LD
CTL1
V CONT
LANC DC
LANC I/O
VREF
RT
OUT1
IN1
OUT2
+INE2
OUT3
IN3
VR
OUT4
IN4
OUT5
+INE5
OUT6
+INE6
OUT7
IN7
(3/5)
IC4301
YAW/PITCH SENSOR AMP
A 2.8V
Q4514,4516,4518
5V REG
MT 5V
Q4504 SWITCHING
L4502
L4508
IN1
D 1.5V
Q4505 SWITCHING
L4503
L4509
BL REG
BL CONT
L4521
L4511
L4512
IR 2.8V
PR 2.8V
A 2.8V
Q4506 SWITCHING
L4504
L4513
L4514
L4515
D 2.8V
AU 2.8V
EP 2.8V
Q4524,4525
1.9V REG
D 1.9V
(4/5)
IC4504
3.1V REG
USB 3.1V
Q4507 SWITCHING
L4505
L4516
L4517
L4518
L4519
A 4.6V
AU 4.6V
EP 4.6V
RP 4.6V
13.3V REG
Q4513
EP 13.3V
Q4508 SWITCHING
L4506
CAP VS
CAP ERROR
Q4509 SWITCHING
L4507
DRUM VS
DRUM ERROR
L4501
D4502 RECT
L4510
Q4510 SWITCHING
12V REG
Q4515, Q4517, Q4519
CAM 12V
-6.5V REG
Q4520, 4521
CAM -6.5V
CAM DD ON
D4504 RECT
LANC DC
D 2.8V
R400,4005
CN4002
D 2.8V
NS LED A
A 4.6V
LANC DC
AU 2.8V
①
TO POWER BLOCK DIAGRAM (2/2) (MA-421)
(PAGE 3-11)
CN4004
XVTR MODE SW
XCAM MODE SW
XPHOTO STBY SW
VTR UNREG
AU 4.6V
AU 2.8V
RP 4.6V
RP 2.8V
A 2.8V
D 1.5V
IN1
USB 3.1V
D 1.9V
D 2.8V
MT 5V
A 4.6V
CAP VS
CAP ERROR
DRUM VS
DRUM ERROR
CAM DD ON
CAM 12V
CAM -6.5V
EP 13.3V
②
TO POWER BLOCK DIAGRAM (2/2) (VC-312)
(PAGE 3-11)
CN4003
EP 4.6V
EP 13.3V
EP 2.8V
BL REG
BL CONT
③
TO POWER BLOCK DIAGRAM (2/2) (PD-188)
(PAGE 3-12)
LB-085 BOARD
LCD902
COLOR EVF UNIT
CN5602
CN5601
CN4201
FB4202
EP 13.3V
EP 2.8V
EP 4.6V
IC5601
BACK LIGHT DRIVE
(1/5)
IC4201
RGB DRIVE
(1/5)
IC4202
TIMING GENERATOR
LED ON/OFF
16

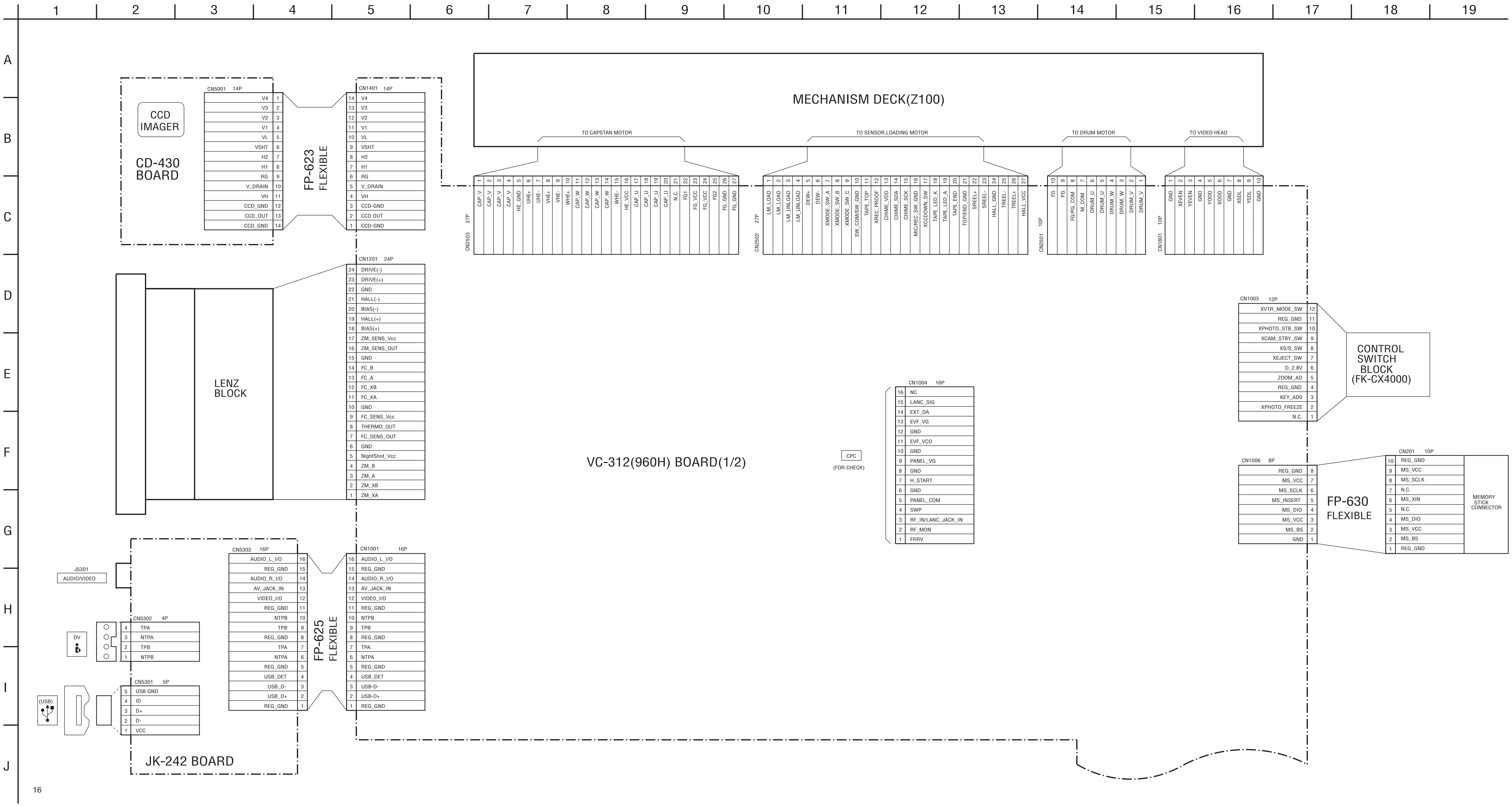
3-6. POWER BLOCK DIAGRAM (2/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.


MA-421 BOARD
CN5402
D 2.8V
NS LED A
A 4.6V
LANC DC
AU 2.8V
LED
D5405
NIGHT SHOT LED
(2/2)
IC5401
REMOTE COMMANDER RECEIVER
(1/2)
IC5501
MIC AMP
SE5401, 5402
PITCH, YAW SENSOR
J5402
(LANC)
① TO POWER BLOCK DIAGRAM (1/2) (VA-118) (PAGE 3-10)
③ TO POWER BLOCK DIAGRAM (1/2) (VA-118) (PAGE 3-10)
② TO POWER BLOCK DIAGRAM (1/2)(VA-118) (PAGE 3-10)
PD-188 BOARD
EP 4.6V
EP 13.3V
EP 2.8V
FB6002
Q6003, 6004
CN6001
LCD901
2.5 INCH COLOR LCD UNIT
IC6001
RGB DRIVE
IC6002
TIMING GENERATOR
IC6101,6102
INVERTER (BACK LIGHT DRIVE)
BL REG
BL CONT
BL HIGH
CN6201
CN6101
ND901
BACKLIGHT
VC-312 BOARD
CN1002
CN1003
XVTR MODE SW
XCAM MODE SW
XPHOTO STBY SW
CONTROL SWITCH BLOCK(FK-CX4000)
RV001
ZOOM VR
VCR
OFF (CHG)
CAMERA
MEMORY
S1
POWER
VTR UNREG
REG
SP VCC
AU 4.6V
AU 2.8V
D 2.8V
D 1.5V
CAM DO IN
D 1.,5V (IC2704)
L1002
L1001
RP 4.6V
RP 2.8V
A 2.8V
A 1.5V
D 1.5V IC
INT1
USB 3.1V
D 1.9V
MT 5V
A 4.6V
CAP VS
CAP ERROR
DRUM VS
DRUM ERROR
CAM DO ON
CAM 12V
CAM -6.5V
EP 13.3V
(13/14)
IC3001
AUDIO I/O
(13/14)
IC2901
AUDIO D/A CONV. A/D CONV.
(4/14)
IC2104
BUFFER
(12/14)
IC2602
EEPROM
(12/14)
IC2601
CAMERA CONTROL MECHA CONTROL
ZM RST LED
FC RST LED
XREEL HALL ON
(14/14)
IC1002
3.3V REG
MT 5V
MS VCC ON
CN1006
MS VCC
FP-630(FLEXIBLE)
CN201
MEMORY STICK
(9/14)
IC1801
REC/PB AMP
(7/14)
IC2301
DV SIGNAL PROCESS RF SIGNAL PROCESS
(3/14)
IC2101
CAMERA PROCESS DV SIGNAL PROCESS MPEG MOVE PROCESS DIGITAL STILL PROCESS AUDIO SIGNAL PROCESS
(4/14)
IC2102
16Mbit SDRAM
(10/14)
IC2001
VIDEO A/D CONV.
CAM DD ON
CHIME PWR CONT
(5/14)
IC2704
HI CONTROL DIGITAL STILL CONTROL
(5/14)
IC2701
EEPROM
(5/14)
IC2703
XTAL OSC
(5/14)
IC2705
NAND
(6/14)
IC2803
16M FLASH MEMORY
(6/14)
IC2801
16M SDRAM
A 1.5V
D1.5V
D2.8V
FB2703
FB2801
(11/14)
IC2501
CAPSTAN MOTOR DRIVE CAPSTAN FG AMP DRUM MOTOR DRIVE DRUM FG,PG AMP LOADING MOTOR DRIVE REEL FG AMP TAPE TOP,END DET DRUM,CAP ERROR AMP
Q2705
Q2501
CHIME VDD
SENSOR VCC
CHIME PWR CONT
XREEL HALL ON
R2515
TAPE LED A
CN2502
4PIN CONNECTOR
MIC902
T REEL, S REEL SENSOR
D901
TAPE LED
Z MECHA DECK
A 4.6V
D 1.9V
(1/14)
IC1401
TIMING GENERATOR
(1/14)
IC1402
S/H,AGC A/D CONV.
CAM 15V
CAM -7.5V
CN1401
CD-430 BOARD
CN5001
IC5001
CCD IMAGER
(8/14)
IC2201
DV INTERFACE
(10/14)
IC1901
VIDEO IN/OUT AGC ACC
(9/14)
IC1701
EVR
(2/14)
IC1203
FOCUS/ZOOM MOTOR DRIVE SHUTTER DRIVE
(2/14)
IC1201
IC1202
IRIS DRIVE HALL AMP
FC RST LED
D2.8V
ZM RST LED
Q1202(1/2)
Q1202(2/2)
FC SENS VCC
ZM SENS VCC
CN1201
LENS ASSY
FOCUS RESET SENSOR
ZOOM RESET SENSOR

SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM (1/3)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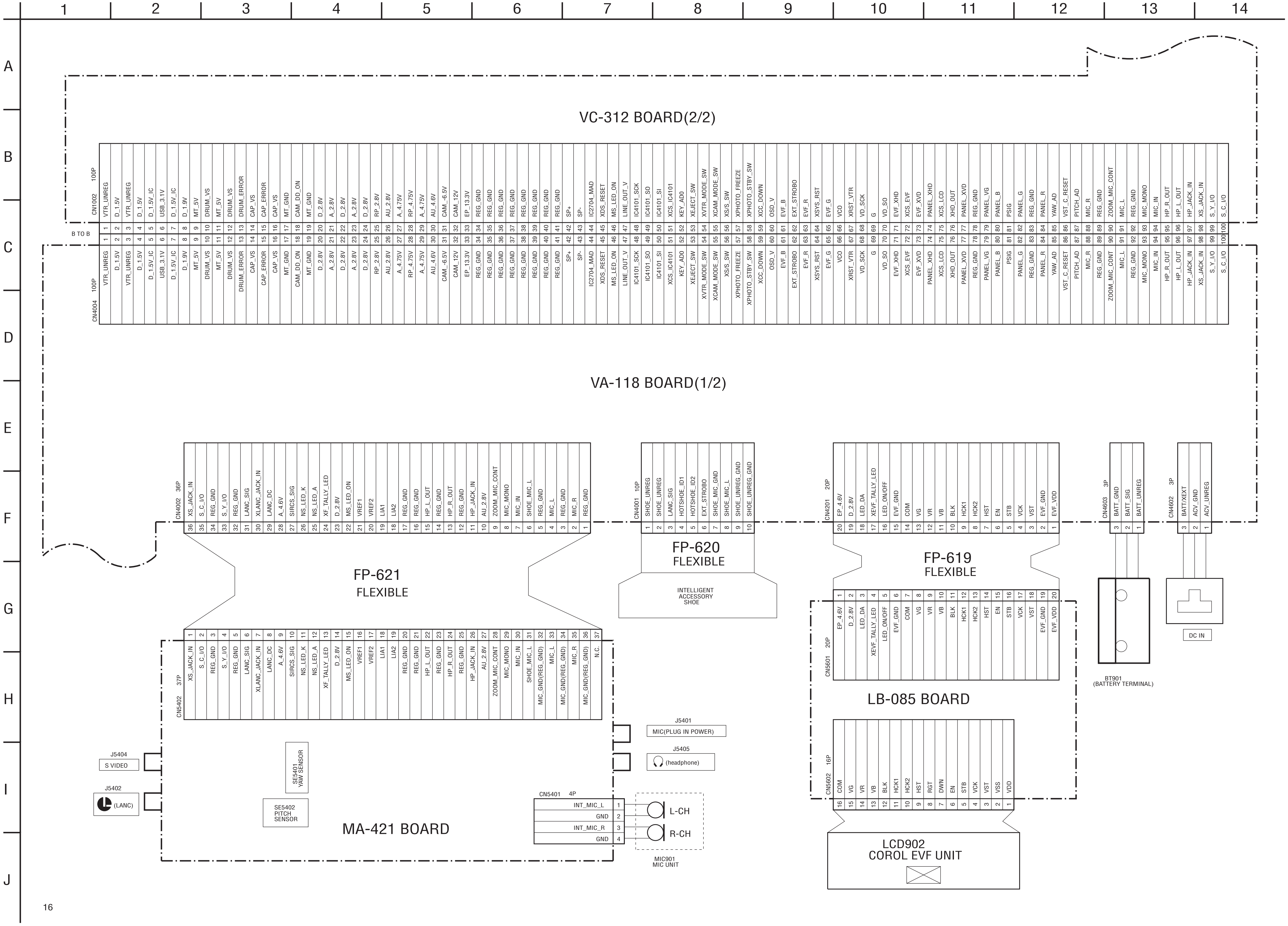
A
B
C
D
E
F
G
H
I
J
CCD IMAGER
CD-430 BOARD
CN5001 14P
V4 1
V3 2
V2 3
V1 4
VL 5
VSHT 6
H2 7
H1 8
RG 9
V_DRAIN 10
VH 11
CCD_GND 12
CCD_OUT 13
CCD_GND 14
FP-623 FLEXIBLE
CN1401 14P
14 V4
13 V3
12 V2
11 V1
10 VL
9 VSHT
8 H2
7 H1
6 RG
5 V_DRAIN
4 VH
3 CCD-GND
2 CCD OUT
1 CCD-GND
MECHANISM DECK(Z100)
TO CAPSTAN MOTOR
TO SENSOR,LOADING MOTOR
TO DRUM MOTOR
TO VIDEO HEAD
CN2503 27P
1 CAP_V
2 CAP_V
3 CAP_V
4 CAP_V
5 HE_GND
6 UHE+
7 UHE-
8 VHE+
9 VHE-
10 WHE+
11 CAP_W
12 CAP_W
13 CAP_W
14 CAP_W
15 WHE-
16 HE_VCC
17 CAP_U
18 CAP_U
19 CAP_U
20 CAP_U
21 N.C.
22 FG1
23 FG_VCC
24 FG_VCC
25 FG2
26 FG_GND
27 FG_GND
CN2502 27P
1 LM_LOAD
2 LM_LOAD
3 LM_UNLOAD
4 LM_UNLOAD
5 DEW+
6 DEW-
7 XMODE_SW_A
8 XMODE_SW_B
9 XMODE_SW_C
10 SW_COM/SW_GND
11 TAPE_TOP
12 XREC_PROOF
13 CHIME_VDD
14 CHIME_SDA
15 CHIME_SCK
16 MIC/REC_SW_GND
17 XCCDOWN_SW
18 TAPE_LED_K
19 TAPE_LED_A
20 TAPE_END
21 TOP/END_GND
22 SREEL+
23 SREEL-
24 HALL_GND
25 TREEL-
26 TREEL+
27 HALL_VCC
CN2501 10P
10 FG
9 PG
8 FG/PG_COM
7 M_COM
6 DRUM_U
5 DRUM_U
4 DRUM_W
3 DRUM_W
2 DRUM_V
1 DRUM_V
CN1801 10P
1 GND
2 XEVEN
3 YEVEN
4 GND
5 YODD
6 XODD
7 GND
8 XSDL
9 YSDL
10 GND
LENZ BLOCK
CN1201 24P
24 DRIVE(-)
23 DRIVE(+)
22 GND
21 HALL(-)
20 BIAS(-)
19 HALL(+)
18 BIAS(+)
17 ZM_SENS_Vcc
16 ZM_SENS_OUT
15 GND
14 FC_B
13 FC_A
12 FC_XB
11 FC_XA
10 GND
9 FC_SENS_Vcc
8 THERMO_OUT
7 FC_SENS_OUT
6 GND
5 NightShot_Vcc
4 ZM_B
3 ZM_A
2 ZM_XB
1 ZM_XA
VC-312(960H) BOARD(1/2)
CPC
(FOR CHECK)
CN1004 16P
16 NC
15 LANC_SIG
14 EXT_DA
13 EVF_VG
12 GND
11 EVF_VCO
10 GND
9 PANEL_VG
8 GND
7 H_START
6 GND
5 PANEL_COM
4 SWP
3 RF_IN/LANC_JACK_IN
2 RF_MON
1 FRRV
CN1003 12P
XVTR_MODE_SW 12
REG_GND 11
XPHOTO_STB_SW 10
XCAM_STBY_SW 9
XS/S_SW 8
XEJECT_SW 7
D_2.8V 6
ZOOM_AD 5
REG_GND 4
KEY_AD0 3
XPHOTO_FREEZE 2
N.C. 1
CONTROL SWITCH BLOCK (FK-CX4000)
CN1006 8P
REG_GND 8
MS_VCC 7
MS_SCLK 6
MS_INSERT 5
MS_DIO 4
MS_VCC 3
MS_BS 2
GND 1
FP-630 FLEXIBLE
CN201 10P
10 REG_GND
9 MS_VCC
8 MS_SCLK
7 N.C.
6 MS_XIN
5 N.C.
4 MS_DIO
3 MS_VCC
2 MS_BS
1 REG_GND
MEMORY STICK CONNECTOR
J5301
AUDIO/VIDEO
DV
CN5302 4P
4 TPA
3 NTPA
2 TPB
1 NTPB
(USB)
CN5301 5P
5 USB GND
4 ID
3 D+
2 D-
1 VCC
CN5303 16P
AUDIO_L_I/O 16
REG_GND 15
AUDIO_R_I/O 14
AV_JACK_IN 13
VIDEO_I/O 12
REG_GND 11
NTPB 10
TPB 9
REG_GND 8
TPA 7
NTPA 6
REG_GND 5
USB_DET 4
USB_D- 3
USB_D+ 2
REG_GND 1
FP-625 FLEXIBLE
CN1001 16P
16 AUDIO_L_I/O
15 REG_GND
14 AUDIO_R_I/O
13 AV_JACK_IN
12 VIDEO_I/O
11 REG_GND
10 NTPB
9 TPB
8 REG_GND
7 TPA
6 NTPA
5 REG_GND
4 USB_DET
3 USB-D-
2 USB-D+
1 REG_GND
JK-242 BOARD
16

FRAME SCHEMATIC DIAGRAM (2/3)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C
D
E
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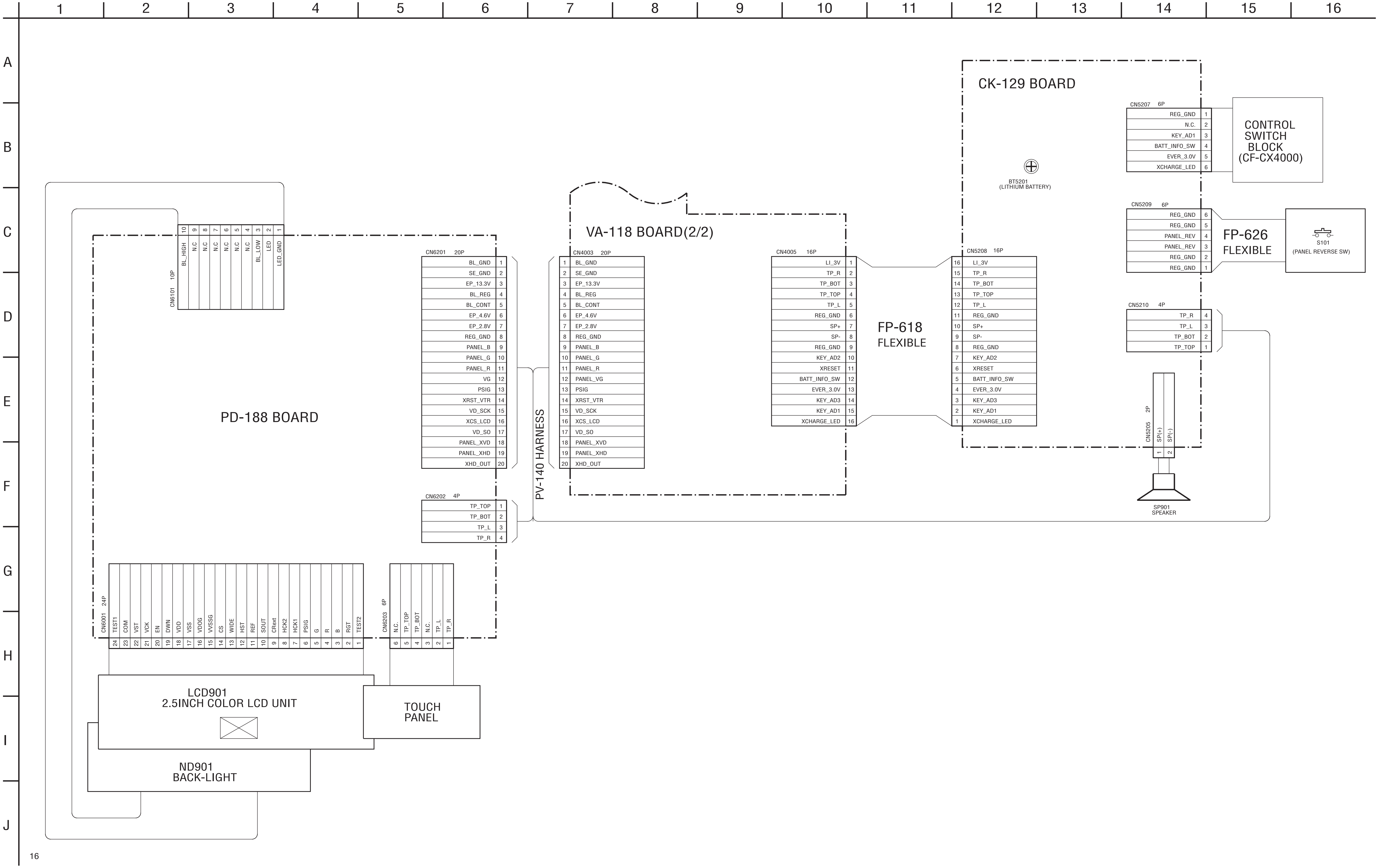
G
H
I
J
VC-312 BOARD(2/2)
CN1002 100P
1 VTR_UNREG
2 D_1.5V
3 VTR_UNREG
4 D_1.5V
5 D_1.5V_IC
6 USB_3.1V
7 D_1.5V_IC
8 D_1.9V
9 MT_5V
10 DRUM_VS
11 MT_5V
12 DRUM_VS
13 DRUM_ERROR
14 CAP_VS
15 CAP_ERROR
16 CAP_VS
17 MT_GND
18 CAM_DD_ON
19 MT_GND
20 D_2.8V
21 A_2.8V
22 D_2.8V
23 A_2.8V
24 D_2.8V
25 RP_2.8V
26 AU_2.8V
27 A_4.75V
28 RP_4.75V
29 A_4.75V
30 AU_4.6V
31 CAM_-6.5V
32 CAM_12V
33 EP_13.3V
34 REG_GND
35 REG_GND
36 REG_GND
37 REG_GND
38 REG_GND
39 REG_GND
40 REG_GND
41 REG_GND
42 SP+
43 SP-
44 IC2704_MAD
45 XDS_RESET
46 MS_LED_ON
47 LINE_OUT_V
48 IC4101_SCK
49 IC4101_SO
50 IC4101_SI
51 XCS_IC4101
52 KEY_AD0
53 XEJECT_SW
54 XVTR_MODE_SW
55 XCAM_MODE_SW
56 XS/S_SW
57 XPHOTO_FREEZE
58 XPHOTO_STBY_SW
59 XCC_DOWN
60 OSD_V
61 EVF_B
62 EXT_STROBO
63 EVF_R
64 XSYS_RST
65 EVF_G
66 VCO
67 XRST_VTR
68 VD_SCK
69 G
70 VD_SO
71 EVF_XHD
72 XCS_EVF
73 EVF_XVD
74 PANEL_XHD
75 XCS_LCD
76 XHD_OUT
77 PANEL_XVD
78 REG_GND
79 PANEL_VG
80 PANEL_B
81 PSIG
82 PANEL_G
83 REG_GND
84 PANEL_R
85 YAW_AD
86 VST_C_RESET
87 PITCH_AD
88 MIC_R
89 REG_GND
90 ZOOM_MIC_CONT
91 MIC_L
92 REG_GND
93 MIC_MONO
94 MIC_IN
95 HP_R_OUT
96 HP_L_OUT
97 HP_JACK_IN
98 XS_JACK_IN
99 S_Y_I/O
100 S_C_I/O
B TO B
CN4004 100P
1 VTR_UNREG
2 D_1.5V
3 VTR_UNREG
4 D_1.5V
5 D_1.5V_IC
6 USB_3.1V
7 D_1.5V_IC
8 D_1.9V
9 MT_5V
10 DRUM_VS
11 MT_5V
12 DRUM_VS
13 DRUM_ERROR
14 CAP_VS
15 CAP_ERROR
16 CAP_VS
17 MT_GND
18 CAM_DD_ON
19 MT_GND
20 D_2.8V
21 A_2.8V
22 D_2.8V
23 A_2.8V
24 D_2.8V
25 RP_2.8V
26 AU_2.8V
27 A_4.75V
28 RP_4.75V
29 A_4.75V
30 AU_4.6V
31 CAM_-6.5V
32 CAM_12V
33 EP_13.3V
34 REG_GND
35 REG_GND
36 REG_GND
37 REG_GND
38 REG_GND
39 REG_GND
40 REG_GND
41 REG_GND
42 SP+
43 SP-
44 IC2704_MAD
45 XDS_RESET
46 MS_LED_ON
47 LINE_OUT_V
48 IC4101_SCK
49 IC4101_SO
50 IC4101_SI
51 XCS_IC4101
52 KEY_AD0
53 XEJECT_SW
54 XVTR_MODE_SW
55 XCAM_MODE_SW
56 XS/S_SW
57 XPHOTO_FREEZE
58 XPHOTO_STBY_SW
59 XCC_DOWN
60 OSD_V
61 EVF_B
62 EXT_STROBO
63 EVF_R
64 XSYS_RST
65 EVF_G
66 VCO
67 XRST_VTR
68 VD_SCK
69 G
70 VD_SO
71 EVF_XHD
72 XCS_EVF
73 EVF_XVD
74 PANEL_XHD
75 XCS_LCD
76 XHD_OUT
77 PANEL_XVD
78 REG_GND
79 PANEL_VG
80 PANEL_B
81 PSIG
82 PANEL_G
83 REG_GND
84 PANEL_R
85 YAW_AD
86 VST_C_RESET
87 PITCH_AD
88 MIC_R
89 REG_GND
90 ZOOM_MIC_CONT
91 MIC_L
92 REG_GND
93 MIC_MONO
94 MIC_IN
95 HP_R_OUT
96 HP_L_OUT
97 HP_JACK_IN
98 XS_JACK_IN
99 S_Y_I/O
100 S_C_I/O
VA-118 BOARD(1/2)
CN4002 36P
36 XS_JACK_IN
35 S_C_I/O
34 REG_GND
33 S_Y_I/O
32 REG_GND
31 LANC_SIG
30 XLANC_JACK_IN
29 LANC_DC
28 A_4.6V
27 SIRCS_SIG
26 NS_LED_K
25 NS_LED_A
24 XF_TALLY_LED
23 D_2.8V
22 MS_LED_ON
21 VREF1
20 VREF2
19 LIA1
18 LIA2
17 REG_GND
16 REG_GND
15 HP_L_OUT
14 REG_GND
13 HP_R_OUT
12 REG_GND
11 HP_JACK_IN
10 AU_2.8V
9 ZOOM_MIC_CONT
8 MIC_MONO
7 MIC_IN
6 SHOE_MIC_L
5 REG_GND
4 MIC_L
3 REG_GND
2 MIC_R
1 REG_GND
FP-621
FLEXIBLE
CN5402 37P
1 XS_JACK_IN
2 S_C_I/O
3 REG_GND
4 S_Y_I/O
5 REG_GND
6 LANC_SIG
7 XLANC_JACK_IN
8 LANC_DC
9 A_4.6V
10 SIRCS_SIG
11 NS_LED_K
12 NS_LED_A
13 XF_TALLY_LED
14 D_2.8V
15 MS_LED_ON
16 VREF1
17 VREF2
18 LIA1
19 LIA2
20 REG_GND
21 REG_GND
22 HP_L_OUT
23 REG_GND
24 HP_R_OUT
25 REG_GND
26 HP_JACK_IN
27 AU_2.8V
28 ZOOM_MIC_CONT
29 MIC_MONO
30 MIC_IN
31 SHOE_MIC_L
32 MIC_GND(REG_GND)
33 MIC_L
34 MIC_GND(REG_GND)
35 MIC_R
36 MIC_GND(REG_GND)
37 N.C.
MA-421 BOARD
J5404
S VIDEO
J5402
(LANC)
SE5401
YAW SENSOR
SE5402
PITCH
SENSOR
J5401
MIC(PLUG IN POWER)
J5405
(headphone)
CN5401 4P
1 INT_MIC_L
2 GND
3 INT_MIC_R
4 GND
L-CH
R-CH
MIC901
MIC UNIT
CN4001 10P
1 SHOE_UNREG
2 SHOE_UNREG
3 LANC_SIG
4 HOTSHOE_ID1
5 HOTSHOE_ID2
6 EXT_STROBO
7 SHOE_MIC_GND
8 SHOE_MIC_L
9 SHOE_UNREG_GND
10 SHOE_UNREG_GND
FP-620
FLEXIBLE
INTELLIGENT
ACCESSORY
SHOE
CN4201 20P
20 EP_4.6V
19 D_2.8V
18 LED_DA
17 XEVF_TALLY_LED
16 LED_ON/OFF
15 EVF_GND
14 COM
13 VG
12 VR
11 VB
10 BLK
9 HCK1
8 HCK2
7 HST
6 EN
5 STB
4 VCK
3 VST
2 EVF_GND
1 EVF_VDD
FP-619
FLEXIBLE
CN5601 20P
1 EP_4.6V
2 D_2.8V
3 LED_DA
4 XEVF_TALLY_LED
5 LED_ON/OFF
6 EVF_GND
7 COM
8 VG
9 VR
10 VB
11 BLK
12 HCK1
13 HCK2
14 HST
15 EN
16 STB
17 VCK
18 VST
19 EVF_GND
20 EVF_VDD
LB-085 BOARD
CN5602 16P
16 COM
15 VG
14 VR
13 VB
12 BLK
11 HCK1
10 HCK2
9 HST
8 RGT
7 DWN
6 EN
5 STB
4 VCK
3 VST
2 VSS
1 VDD
LCD902
COROL EVF UNIT
CN4603 3P
3 BATT_GND
2 BATT_SIG
1 BATT_UNREG
BT901
(BATTERY TERMINAL)
CN4602 3P
3 BATT/XEXT
2 ACV_GND
1 ACV_UNREG
DC IN

FRAME SCHEMATIC DIAGRAM (3/3)


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J
CK-129 BOARD
CN5207 6P
REG_GND 1
N.C. 2
KEY_AD1 3
BATT_INFO_SW 4
EVER_3.0V 5
XCHARGE_LED 6
CONTROL SWITCH BLOCK (CF-CX4000)
BT5201 (LITHIUM BATTERY)
CN5209 6P
REG_GND 6
REG_GND 5
PANEL_REV 4
PANEL_REV 3
REG_GND 2
REG_GND 1
FP-626 FLEXIBLE
S101 (PANEL REVERSE SW)
CN5208 16P
16 LI_3V
15 TP_R
14 TP_BOT
13 TP_TOP
12 TP_L
11 REG_GND
10 SP+
9 SP-
8 REG_GND
7 KEY_AD2
6 XRESET
5 BATT_INFO_SW
4 EVER_3.0V
3 KEY_AD3
2 KEY_AD1
1 XCHARGE_LED
CN5210 4P
TP_R 4
TP_L 3
TP_BOT 2
TP_TOP 1
CN5205 2P
SP(+) 1
SP(-) 2
SP901 SPEAKER
FP-618 FLEXIBLE
VA-118 BOARD(2/2)
CN4005 16P
LI_3V 1
TP_R 2
TP_BOT 3
TP_TOP 4
TP_L 5
REG_GND 6
SP+ 7
SP- 8
REG_GND 9
KEY_AD2 10
XRESET 11
BATT_INFO_SW 12
EVER_3.0V 13
KEY_AD3 14
KEY_AD1 15
XCHARGE_LED 16
CN4003 20P
1 BL_GND
2 SE_GND
3 EP_13.3V
4 BL_REG
5 BL_CONT
6 EP_4.6V
7 EP_2.8V
8 REG_GND
9 PANEL_B
10 PANEL_G
11 PANEL_R
12 PANEL_VG
13 PSIG
14 XRST_VTR
15 VD_SCK
16 XCS_LCD
17 VD_SO
18 PANEL_XVD
19 PANEL_XHD
20 XHD_OUT
PV-140 HARNESS
PD-188 BOARD
CN6201 20P
BL_GND 1
SE_GND 2
EP_13.3V 3
BL_REG 4
BL_CONT 5
EP_4.6V 6
EP_2.8V 7
REG_GND 8
PANEL_B 9
PANEL_G 10
PANEL_R 11
VG 12
PSIG 13
XRST_VTR 14
VD_SCK 15
XCS_LCD 16
VD_SO 17
PANEL_XVD 18
PANEL_XHD 19
XHD_OUT 20
CN6202 4P
TP_TOP 1
TP_BOT 2
TP_L 3
TP_R 4
CN6101 10P
10 BL_HIGH
9 N.C
8 N.C
7 N.C
6 N.C
5 N.C
4 N.C
3 BL_LOW
2 LED
1 LED_GND
CN6001 24P
24 TEST1
23 COM
22 VST
21 VCK
20 EN
19 DWN
18 VDD
17 VSS
16 VDOG
15 VVSSG
14 CS
13 WIDE
12 HST
11 REF
10 SOUT
9 CRext
8 HCK2
7 HCK1
6 PSIG
5 G
4 R
3 B
2 RGT
1 TEST2
CN6203 6P
6 N.C.
5 TP_TOP
4 TP_BOT
3 N.C.
2 TP_L
1 TP_R
LCD901 2.5INCH COLOR LCD UNIT
TOUCH PANEL
ND901 BACK-LIGHT
16

COVER

4-2. SCHEMATIC DIAGRAMS

Link

- CD-430 BOARD (CCD IMAGER)
- LB-085 BOARD (EVF, BACK LIGHT)
- VA-118 BOARD (1/5) (RGB DRIVE, TG)
- VA-118 BOARD (2/5) (HI CONTROL)
- VA-118 BOARD (3/5) (Y/P SENSOR AMP, CONNECTOR)
- VA-118 BOARD (4/5) (DC/DC COVERTER)
- VA-118 BOARD (5/5) (POWER IN, CHARGE)
- CK-129 BOARD (FUNCTION SWITCH)
- PD-188 BOARD (1/2) (DRIVER, TG)
- PD-188 BOARD (2/2) (BACKLIGHT DRIVE)
- JK-242 BOARD (A.V/DV IN/OUT)
- CONTROL SWITCH BLOCK (FK-CX4000)
- MA-421 BOARD (1/2) (MIC AMP)
- MA-421 BOARD (2/2) (Y/P SENSOR, V/A IN/OUT)
- FP-467/468/228 FLEXIBLE (MD BLOCK)

- COMMON NOTE FOR SCHEMATIC DIAGRAMS
- WAVEFORMS

COVER

4-2. SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For schematic diagrams)

- All capacitors are in μF unless otherwise noted. pF : μμF. 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10 W unless otherwise noted. kΩ=1000 Ω, MΩ=1000 kΩ.
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

Example	C541	L452
	22U	10UH
	TA A	2520

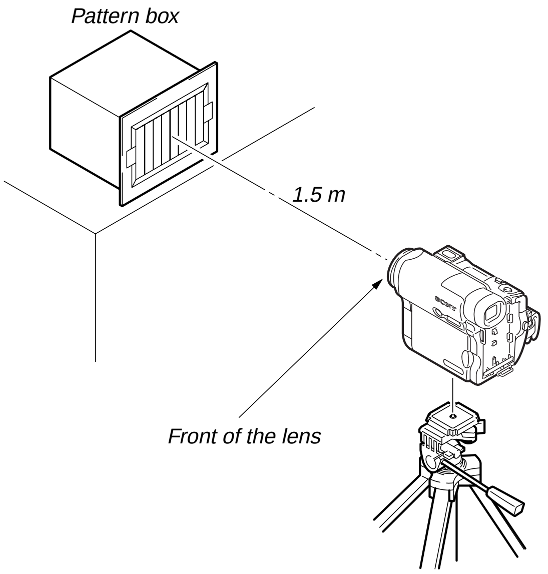
Kinds of capacitor
Temperature characteristics
External dimensions (mm)

- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
  In such cases, the unused circuits may be indicated.
- Parts with * differ according to the model/destination. Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$　　PB/XREC → PB/$\overline{\text{REC}}$
- ▭: non flammable resistor
- ▭: fusible resistor
- ☐: panel designation
- 🟥: B+ Line
- ▬ ▬ ▬: B– Line
- ⇨ : IN/OUT direction of (+,–) B LINE.
- ☐: adjustment for repair.
- 🟩: VIDEO SIGNAL (ANALOG)
- 🟪: AUDIO SIGNAL (ANALOG)
- 🟧: VIDEO/AUDIO SIGNAL
- 🟨: VIDEO/AUDIO/SERVO SIGNAL
- 🟦: SERVO SIGNAL
- Circled numbers refer to waveforms.

(Measuring conditions voltage and waveform)

- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms.
  (VOM of DC 10 MΩ input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

1. Connection



2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

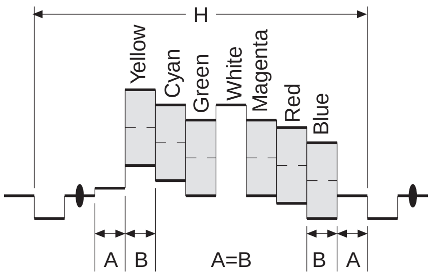


Fig. a (Video output terminal output waveform)

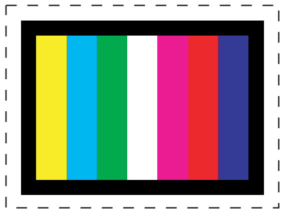


Fig.b (Picture on monitor TV)

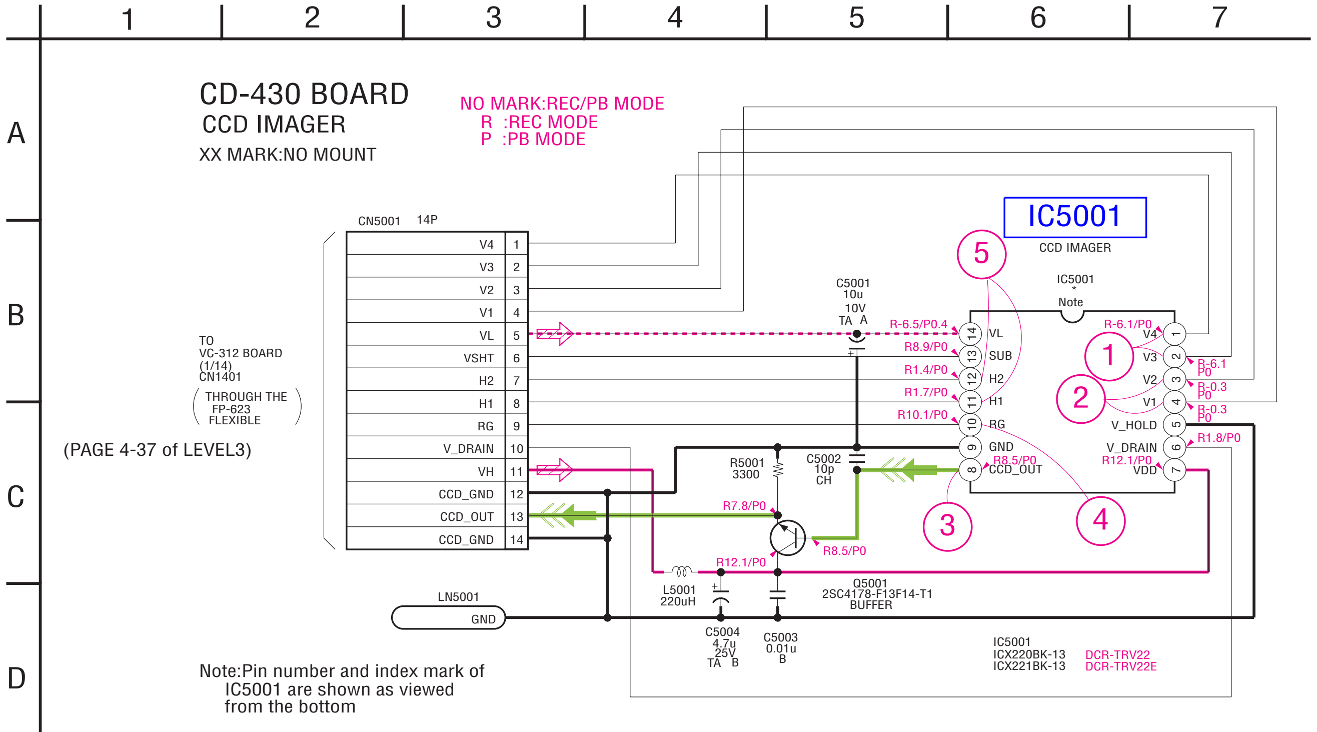
When indicating parts by reference number, please include the board name.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-2. SCHEMATIC DIAGRAMS

For Schematic Diagram

- Refer to page 4-67 for printed wiring board of CD-430 board.
- Refer to page 4-69 for printed wiring board of LB-085 board.


1
2
3
4
5
6
7
A
B
C
D
CD-430 BOARD
CCD IMAGER
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
CN5001 14P
V4 1
V3 2
V2 3
V1 4
VL 5
VSHT 6
H2 7
H1 8
RG 9
V_DRAIN 10
VH 11
CCD_GND 12
CCD_OUT 13
CCD_GND 14
TO
VC-312 BOARD
(1/14)
CN1401
THROUGH THE
FP-623
FLEXIBLE
(PAGE 4-37 of LEVEL3)
LN5001
GND
IC5001
CCD IMAGER
IC5001
*
Note
C5001
10u
10V
TA A
R-6.5/P0.4
R8.9/P0
R1.4/P0
R1.7/P0
R10.1/P0
VL
SUB
H2
H1
RG
GND
CCD_OUT
R8.5/P0
R-6.1/P0
V4
V3
V2
V1
V_HOLD
V_DRAIN
VDD
R12.1/P0
R-6.1 P0
R-0.3 P0
R-0.3 P0
R1.8/P0
1
2
3
4
5
R5001
3300
C5002
10p
CH
R7.8/P0
R8.5/P0
R12.1/P0
L5001
220uH
C5004
4.7u
25V
TA B
C5003
0.01u
B
Q5001
2SC4178-F13F14-T1
BUFFER
IC5001
ICX220BK-13 DCR-TRV22
ICX221BK-13 DCR-TRV22E
Note:Pin number and index mark of
IC5001 are shown as viewed
from the bottom

E
F
G

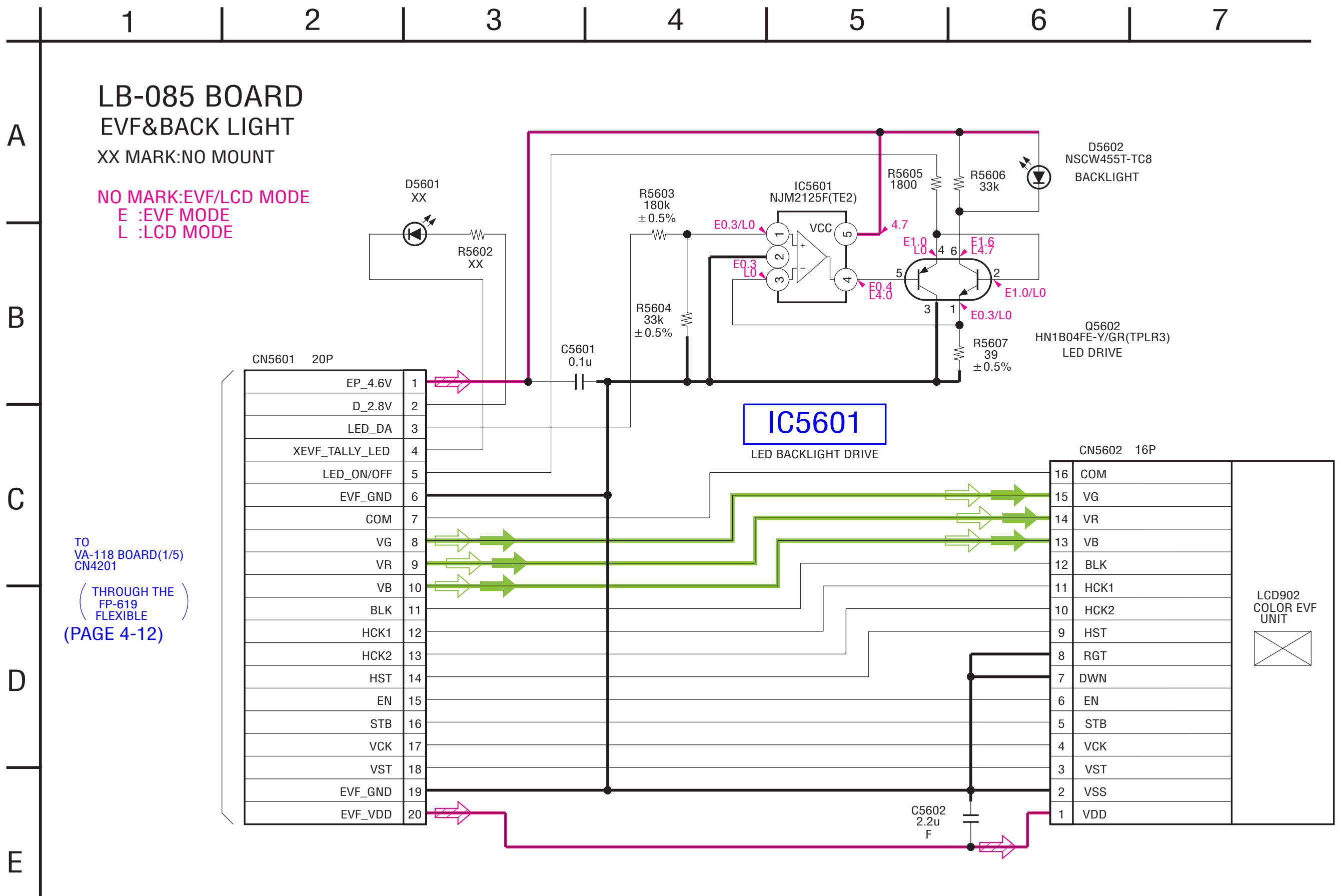
Precautions Upon Replaching CCD imager

- The CD-430 board mounted as a repair part is not equipped with a CCD imager.
  When replaching this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electrictiy from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strog light.

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			➡ ⇨
PB			

16


1
2
3
4
5
6
7
A
B
C
D
E
LB-085 BOARD
EVF&BACK LIGHT
XX MARK:NO MOUNT
NO MARK:EVF/LCD MODE
E :EVF MODE
L :LCD MODE
D5601
XX
R5602
XX
R5603
180k
±0.5%
R5604
33k
±0.5%
C5601
0.1u
IC5601
NJM2125F(TE2)
VCC
E0.3/L0
E0.3 L0
4.7
E0.4 L4.0
R5605
1800
R5606
33k
D5602
NSCW455T-TC8
BACKLIGHT
E1.0 L0
E1.6 L4.7
E1.0/L0
E0.3/L0
Q5602
HN1B04FE-Y/GR(TPLR3)
LED DRIVE
R5607
39
±0.5%
IC5601
LED BACKLIGHT DRIVE
CN5601 20P
EP_4.6V 1
D_2.8V 2
LED_DA 3
XEVF_TALLY_LED 4
LED_ON/OFF 5
EVF_GND 6
COM 7
VG 8
VR 9
VB 10
BLK 11
HCK1 12
HCK2 13
HST 14
EN 15
STB 16
VCK 17
VST 18
EVF_GND 19
EVF_VDD 20
TO
VA-118 BOARD(1/5)
CN4201
THROUGH THE
FP-619
FLEXIBLE
(PAGE 4-12)
CN5602 16P
16 COM
15 VG
14 VR
13 VB
12 BLK
11 HCK1
10 HCK2
9 HST
8 RGT
7 DWN
6 EN
5 STB
4 VCK
3 VST
2 VSS
1 VDD
LCD902
COLOR EVF
UNIT
C5602
2.2u
F

F

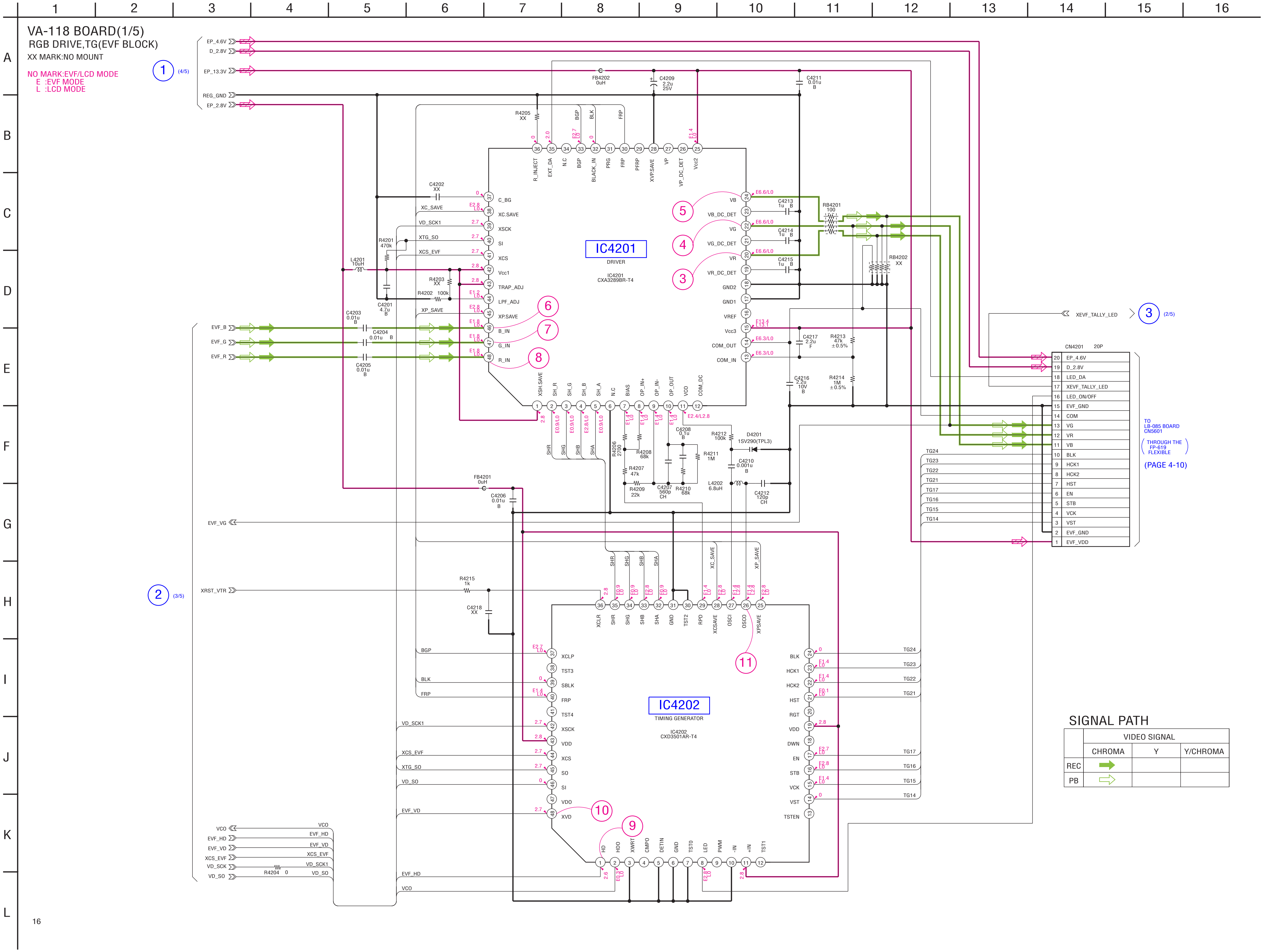
SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

16

For Schematic Diagram

- Refer to page 4-73 for printed wiring board.

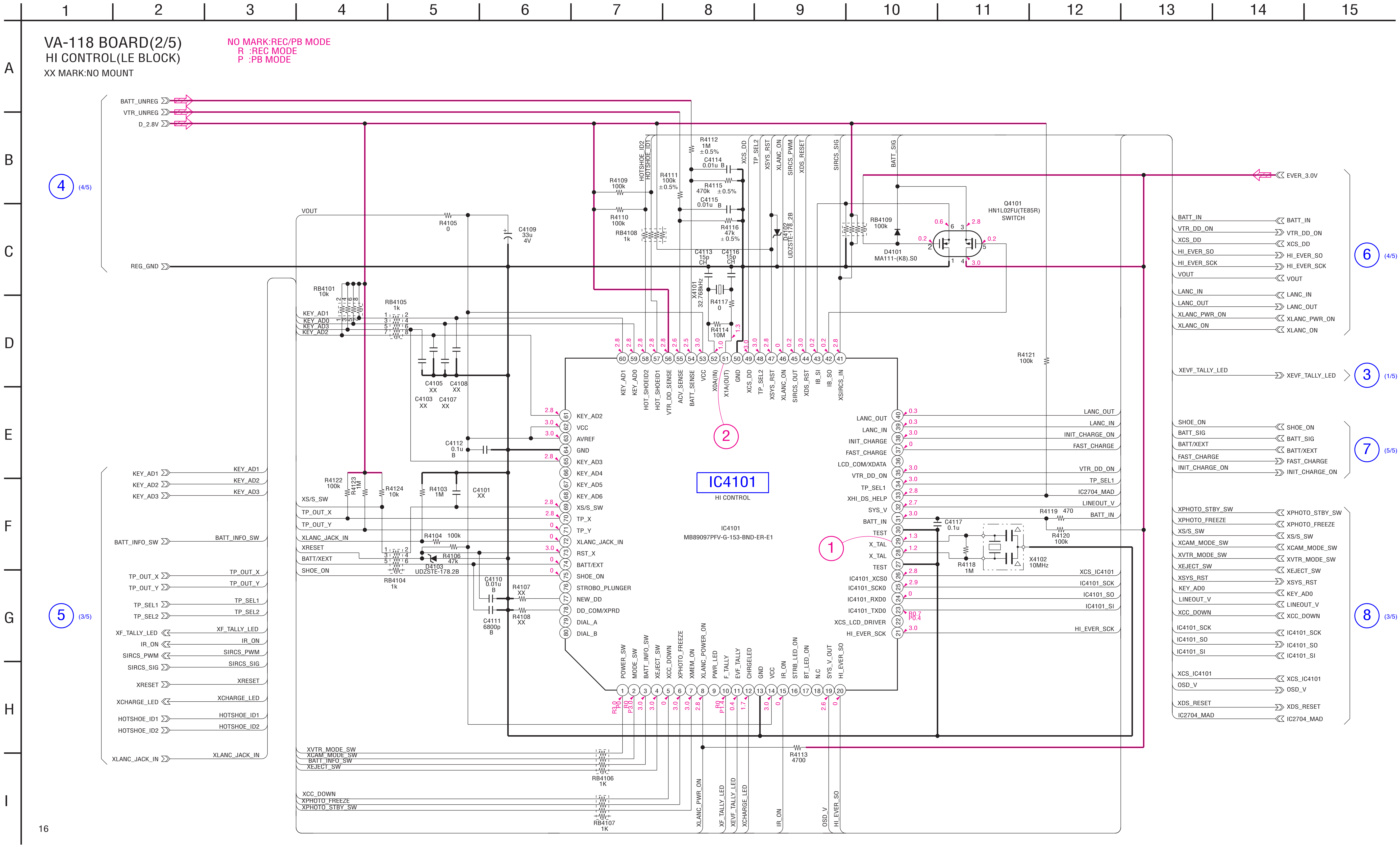

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J K L
VA-118 BOARD(1/5)
RGB DRIVE,TG(EVF BLOCK)
XX MARK:NO MOUNT
NO MARK:EVF/LCD MODE
E :EVF MODE
L :LCD MODE
1 (4/5)
2 (3/5)
3 (2/5)
EP_4.6V
D_2.8V
EP_13.3V
REG_GND
EP_2.8V
EVF_B
EVF_G
EVF_R
EVF_VG
XRST_VTR
VCO
EVF_HD
EVF_VD
XCS_EVF
VD_SCK
VD_SO
XEVF_TALLY_LED
IC4201
DRIVER
IC4201
CXA3289BR-T4
IC4202
TIMING GENERATOR
IC4202
CXD3501AR-T4
FB4201 0uH
FB4202 0uH
C4209 2.2u 25V
C4211 0.01u B
L4201 10uH
L4202 6.8uH
D4201 1SV290(TPL3)
RB4201 100
RB4202 XX
CN4201 20P
20 EP_4.6V
19 D_2.8V
18 LED_DA
17 XEVF_TALLY_LED
16 LED_ON/OFF
15 EVF_GND
14 COM
13 VG
12 VR
11 VB
10 BLK
9 HCK1
8 HCK2
7 HST
6 EN
5 STB
4 VCK
3 VST
2 EVF_GND
1 EVF_VDD
TO LB-085 BOARD CN5601
THROUGH THE FP-619 FLEXIBLE
(PAGE 4-10)
16

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

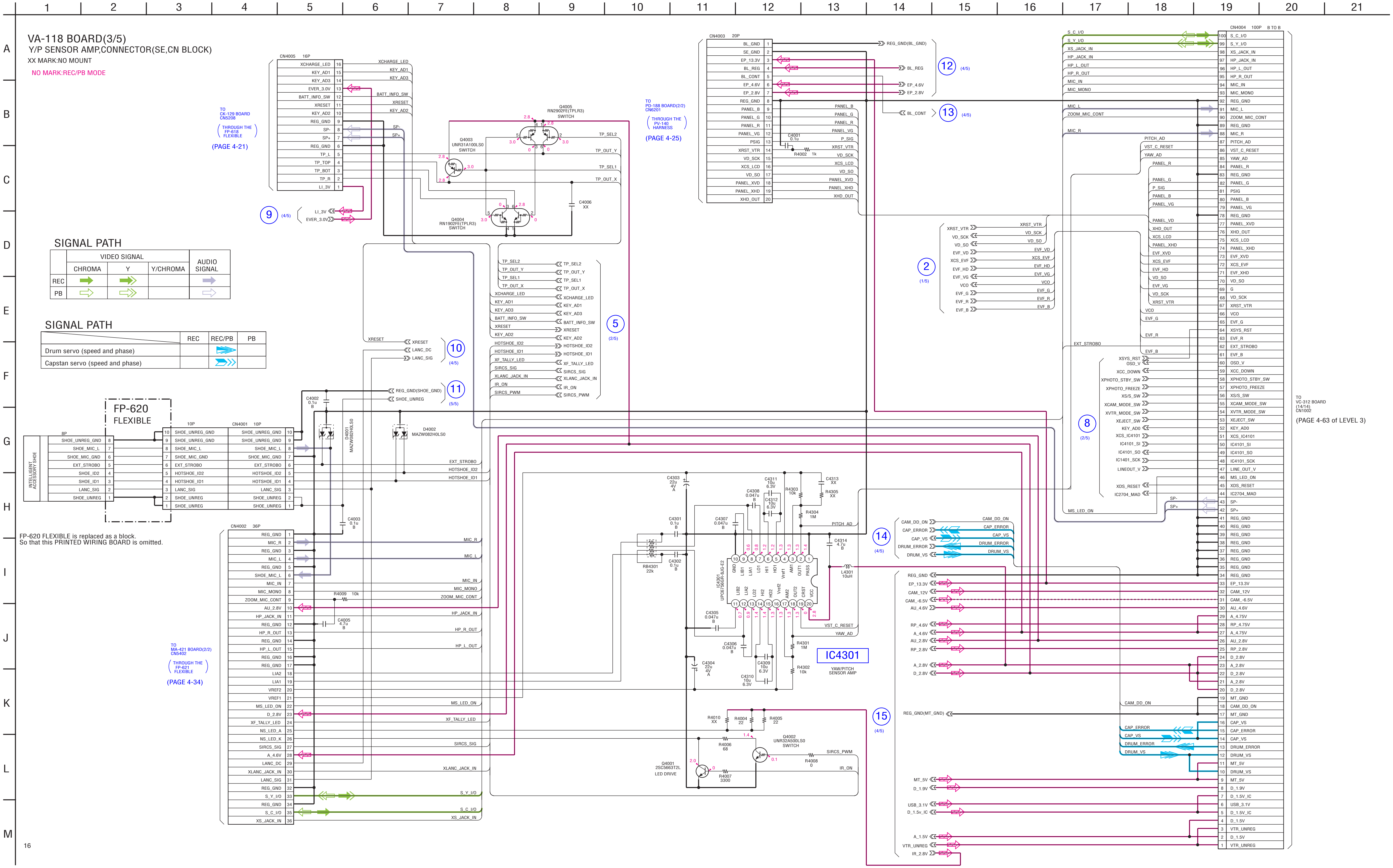
For Schematic Diagram

• Refer to page 4-73 for printed wiring board.


VA-118 BOARD(2/5)
HI CONTROL(LE BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
IC4101
HI CONTROL
IC4101
MB89097PFV-G-153-BND-ER-E1
Q4101
HN1L02FU(TE85R)
SWITCH
D4101
MA111-(K8).SO
D4102
UDZSTE-178.2B
D4103
UDZSTE-178.2B
X4101
32.768kHz
X4102
10MHz
BATT_UNREG
VTR_UNREG
D_2.8V
REG_GND
VOUT
EVER_3.0V
BATT_IN
VTR_DD_ON
XCS_DD
HI_EVER_SO
HI_EVER_SCK
LANC_IN
LANC_OUT
XLANC_PWR_ON
XLANC_ON
XEVF_TALLY_LED
SHOE_ON
BATT_SIG
BATT/XEXT
FAST_CHARGE
INIT_CHARGE_ON
XPHOTO_STBY_SW
XPHOTO_FREEZE
XS/S_SW
XCAM_MODE_SW
XVTR_MODE_SW
XEJECT_SW
XSYS_RST
KEY_AD0
LINEOUT_V
XCC_DOWN
IC4101_SCK
IC4101_SO
IC4101_SI
XCS_IC4101
OSD_V
XDS_RESET
IC2704_MAD
KEY_AD1
KEY_AD2
KEY_AD3
BATT_INFO_SW
TP_OUT_X
TP_OUT_Y
TP_SEL1
TP_SEL2
XF_TALLY_LED
IR_ON
SIRCS_PWM
SIRCS_SIG
XRESET
XCHARGE_LED
HOTSHOE_ID1
HOTSHOE_ID2
XLANC_JACK_IN
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
4 (4/5)
5 (3/5)
6 (4/5)
3 (1/5)
7 (5/5)
8 (3/5)
16

For Schematic Diagram

- Refer to page 4-73 for printed wiring board.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
A B C D E F G H I J K L M
VA-118 BOARD(3/5)
Y/P SENSOR AMP,CONNECTOR(SE,CN BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
CN4005 16P
CN4003 20P
CN4004 100P B TO B
CN4001 10P
CN4002 36P
8P
INTELLIGENT ACCESSORY SHOE
FP-620 FLEXIBLE
TO CK-129 BOARD CN5208 THROUGH THE FP-618 FLEXIBLE (PAGE 4-21)
TO PD-188 BOARD(2/2) CN6201 THROUGH THE PV-140 HARNESS (PAGE 4-25)
TO MA-421 BOARD(2/2) CN5402 THROUGH THE FP-621 FLEXIBLE (PAGE 4-34)
TO VC-312 BOARD (14/14) CN1002 (PAGE 4-63 of LEVEL 3)
Q4003 UNR31A100LS0 SWITCH
Q4005 RN2902FE(TPLR3) SWITCH
Q4004 RN1902FE(TPLR3) SWITCH
D4001 MAZW082H0LS0
D4002 MAZW082H0LS0
Q4001 2SC5663T2L LED DRIVE
Q4002 UNR32A500LS0 SWITCH
IC4301
IC4301 UPC3799GR-9JG-E2
YAW/PITCH SENSOR AMP
L4301 10uH
RB4301 22k
(1/5) (2/5) (4/5) (5/5)
2 5 8 9 10 11 12 13 14 15
REG_GND(BL_GND)
BL_REG
EP_4.6V
EP_2.8V
BL_CONT
XCHARGE_LED
KEY_AD1
KEY_AD3
BATT_INFO_SW
XRESET
KEY_AD2
TP_SEL2
TP_OUT_Y
TP_SEL1
TP_OUT_X
HOTSHOE_ID2
HOTSHOE_ID1
XF_TALLY_LED
SIRCS_SIG
XLANC_JACK_IN
IR_ON
SIRCS_PWM
LANC_DC
LANC_SIG
REG_GND(SHOE_GND)
SHOE_UNREG
EXT_STROBO
MIC_R
MIC_L
MIC_IN
MIC_MONO
ZOOM_MIC_CONT
HP_JACK_IN
HP_R_OUT
HP_L_OUT
MS_LED_ON
S_Y_I/O
S_C_I/O
XS_JACK_IN
PITCH_AD
VST_C_RESET
YAW_AD
CAM_DD_ON
CAP_ERROR
CAP_VS
DRUM_ERROR
DRUM_VS
REG_GND(MT_GND)
16

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		➡
PB	⇨	⇨		⇨

SIGNAL PATH

	REC	REC/PB	PB
Drum servo (speed and phase)		➡	
Capstan servo (speed and phase)		➡	

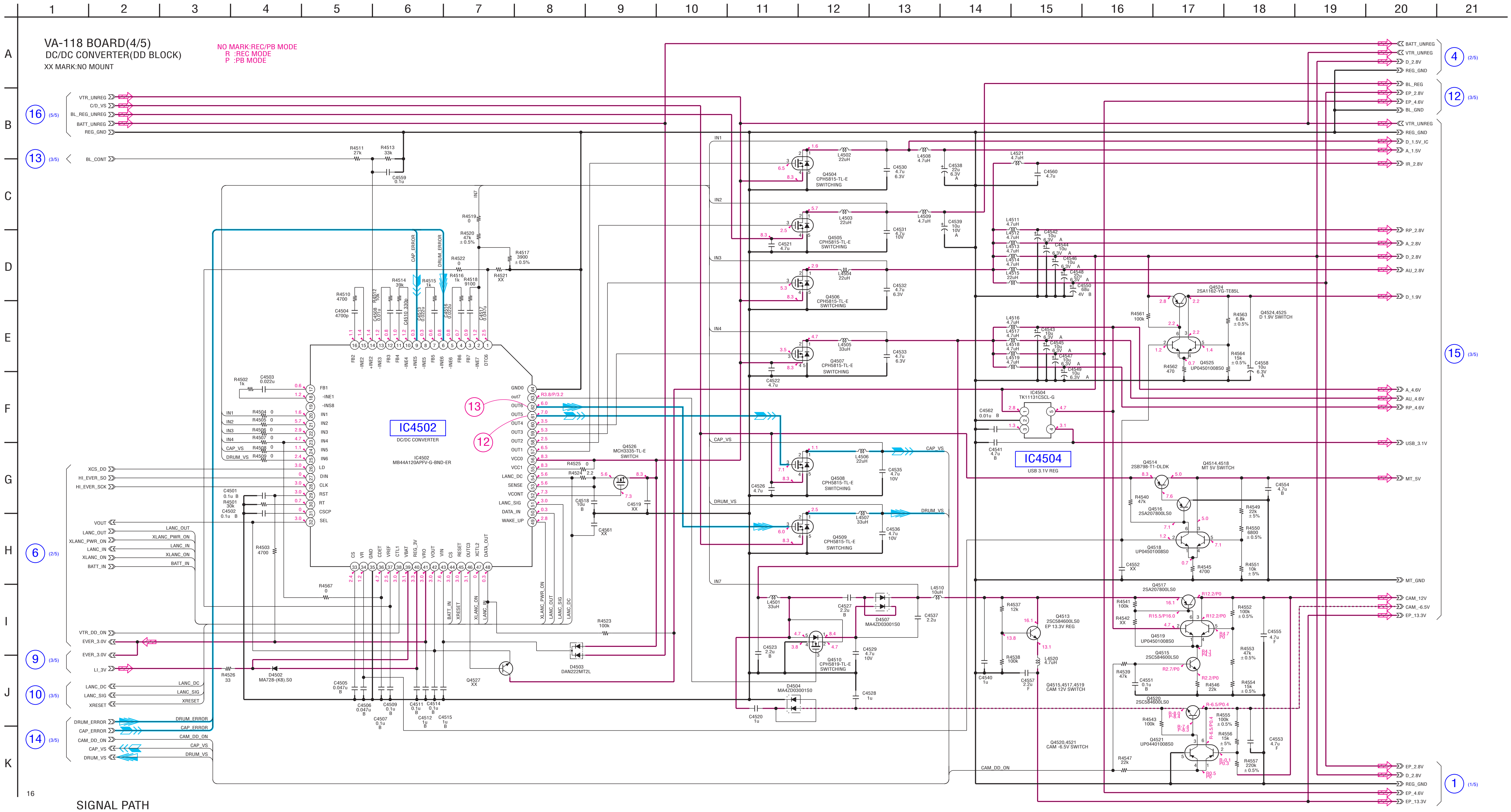
FP-620 FLEXIBLE is replaced as a block.
So that this PRINTED WIRING BOARD is omitted.

COVER

4-2. SCHEMATIC DIAGRAMS | VA-118 BOARD SIDE A | VA-118 BOARD SIDE B

For Schematic Diagram

- Refer to page 4-73 for printed wiring board.


VA-118 BOARD(4/5)
DC/DC CONVERTER(DD BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
IC4502
DC/DC CONVERTER
IC4502
MB44A120APFV-G-BND-ER
IC4504
USB 3.1V REG
IC4504
TK11131CSCL-G
Q4504 CPH5815-TL-E SWITCHING
Q4505 CPH5815-TL-E SWITCHING
Q4506 CPH5815-TL-E SWITCHING
Q4507 CPH5815-TL-E SWITCHING
Q4508 CPH5815-TL-E SWITCHING
Q4509 CPH5815-TL-E SWITCHING
Q4510 CPH5819-TL-E SWITCHING
Q4526 MCH3335-TL-E SWITCH
Q4524 2SA1162-YG-TE85L
Q4524,4525 D 1.9V SWITCH
Q4514,4518 MT 5V SWITCH
Q4513 2SC5584600LS0 EP 13.3V REG
Q4515,4517,4519 CAM 12V SWITCH
Q4520,4521 CAM -6.5V SWITCH
D4502 MA728-(K8).S0
D4503 DAN222MT2L
D4504 MA4ZD03001S0
D4507 MA4ZD03001S0
VTR_UNREG
C/D_VS
BL_REG_UNREG
BATT_UNREG
REG_GND
BL_CONT
XCS_DD
HI_EVER_SO
HI_EVER_SCK
VOUT
LANC_OUT
XLANC_PWR_ON
LANC_IN
XLANC_ON
BATT_IN
VTR_DD_ON
EVER_3.0V
LI_3V
LANC_DC
LANC_SIG
XRESET
DRUM_ERROR
CAP_ERROR
CAM_DD_ON
CAP_VS
DRUM_VS
BATT_UNREG
VTR_UNREG
D_2.8V
REG_GND
BL_REG
EP_2.8V
EP_4.6V
BL_GND
D_1.5V_IC
A_1.5V
IR_2.8V
RP_2.8V
A_2.8V
AU_2.8V
D_1.9V
A_4.6V
AU_4.6V
RP_4.6V
USB_3.1V
MT_5V
MT_GND
CAM_12V
CAM_-6.5V
EP_13.3V
16 (5/5)
13 (3/5)
6 (2/5)
9 (3/5)
10 (3/5)
14 (3/5)
4 (2/5)
12 (3/5)
15 (3/5)
1 (1/5)

SIGNAL PATH

	REC	REC/PB	PB
Drum servo (speed and phase)		⇛	
Capstan servo (speed and phase)		⇛	

For Schematic Diagram

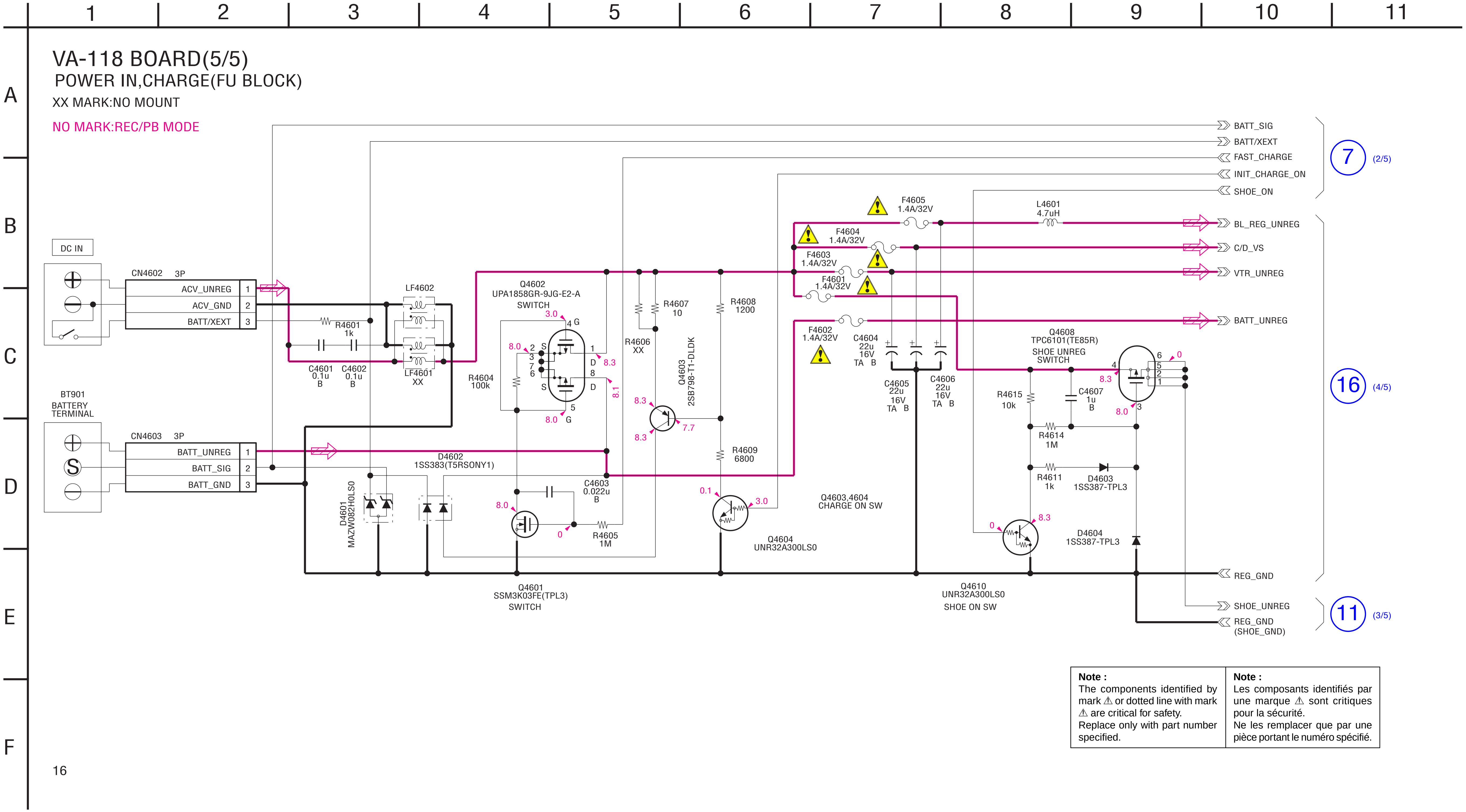
- Refer to page 4-73 for printed wiring board.

VA-118 BOARD(5/5)

POWER IN,CHARGE(FU BLOCK)

XX MARK:NO MOUNT

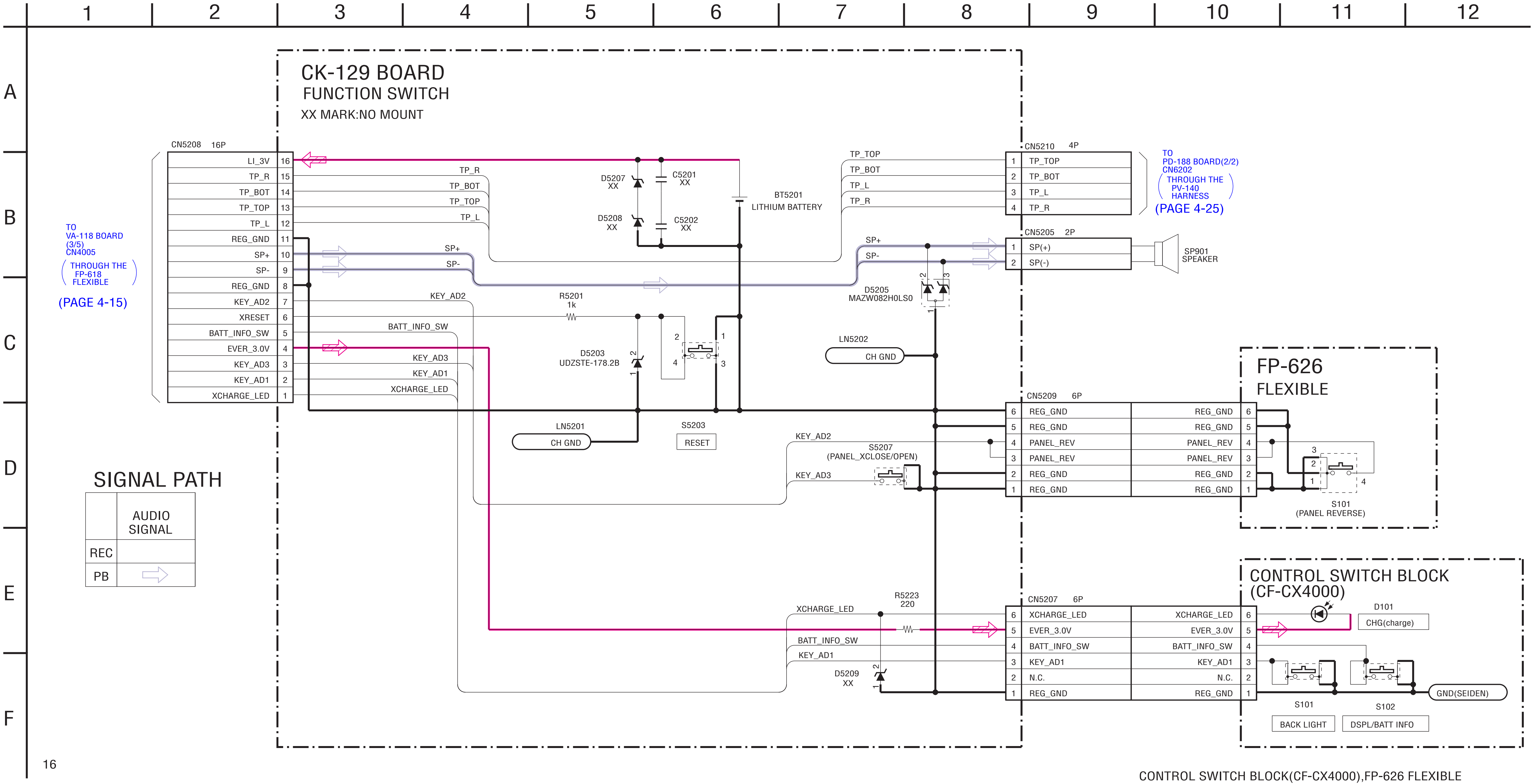
NO MARK:REC/PB MODE


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
DC IN
CN4602 3P
ACV_UNREG 1
ACV_GND 2
BATT/XEXT 3
BT901
BATTERY
TERMINAL
S
CN4603 3P
BATT_UNREG 1
BATT_SIG 2
BATT_GND 3
R4601
1k
C4601
0.1u
B
C4602
0.1u
B
LF4602
LF4601
XX
D4601
MAZW082H0LS0
R4604
100k
Q4602
UPA1858GR-9JG-E2-A
SWITCH
3.0
4 G
8.0
2 S
3
7
6
S
1
D
8
D
8.3
5
8.0 G
8.1
R4606
XX
R4607
10
R4608
1200
Q4603
2SB798-T1-DLDK
8.3
7.7
8.3
R4609
6800
D4602
1SS383(T5RSONY1)
C4603
0.022u
B
8.0
0
R4605
1M
Q4601
SSM3K03FE(TPL3)
SWITCH
0.1
3.0
Q4604
UNR32A300LS0
Q4603,4604
CHARGE ON SW
F4605
1.4A/32V
F4604
1.4A/32V
F4603
1.4A/32V
F4601
1.4A/32V
F4602
1.4A/32V
C4604
22u
16V
TA B
C4605
22u
16V
TA B
C4606
22u
16V
TA B
L4601
4.7uH
Q4608
TPC6101(TE85R)
SHOE UNREG
SWITCH
4
8.3
6
5
2
1
0
3
8.0
R4615
10k
C4607
1u
B
R4614
1M
R4611
1k
D4603
1SS387-TPL3
0
8.3
D4604
1SS387-TPL3
Q4610
UNR32A300LS0
SHOE ON SW
BATT_SIG
BATT/XEXT
FAST_CHARGE
INIT_CHARGE_ON
SHOE_ON
7
(2/5)
BL_REG_UNREG
C/D_VS
VTR_UNREG
BATT_UNREG
16
(4/5)
REG_GND
SHOE_UNREG
REG_GND
(SHOE_GND)
11
(3/5)
16

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

For Schematic Diagram
- Refer to page 4-77 for printed wiring board.


1
2
3
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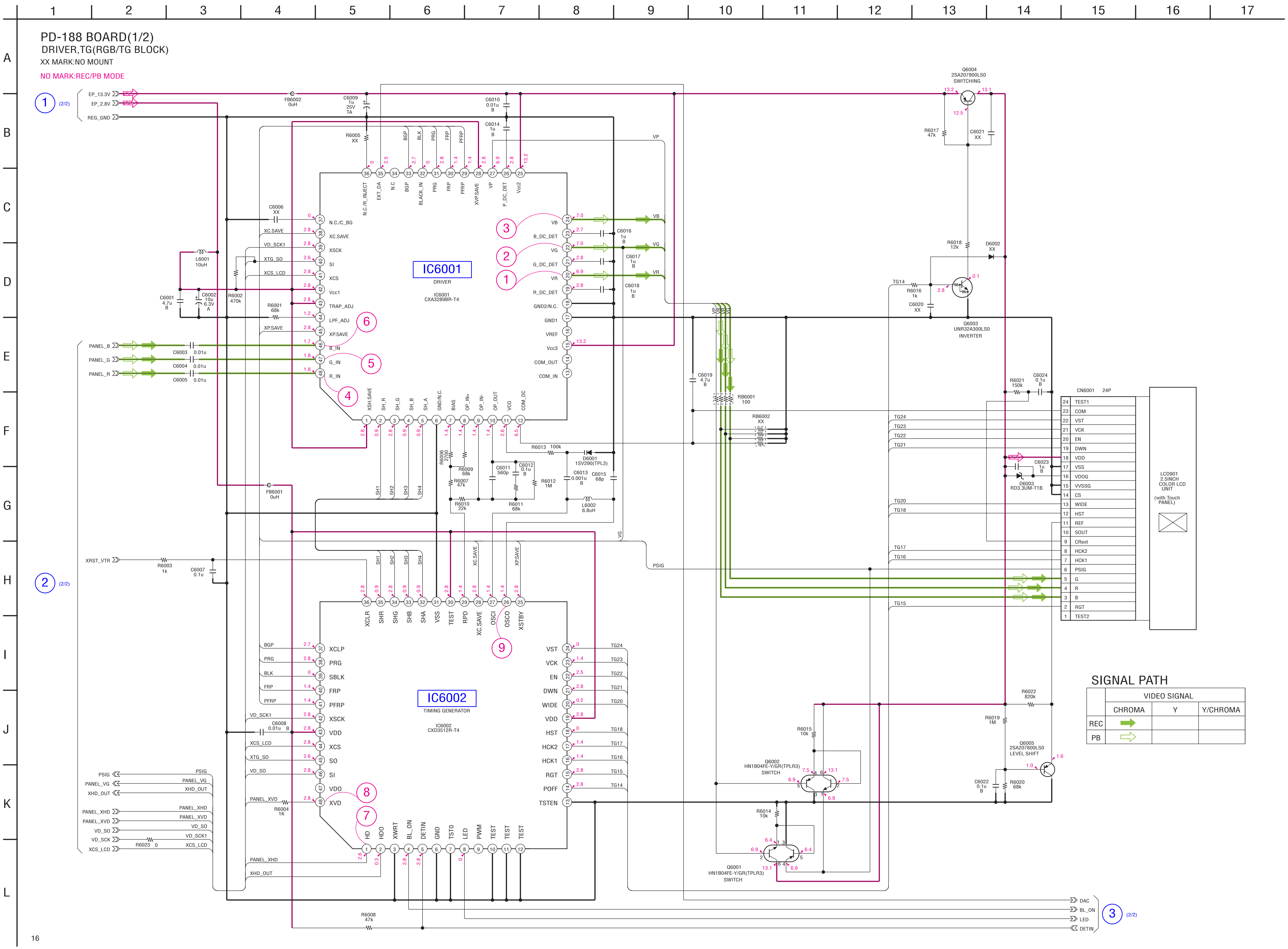
8
9
10
11
12
A
B
C
D
E
F
CK-129 BOARD
FUNCTION SWITCH
XX MARK:NO MOUNT
CN5208 16P
LI_3V 16
TP_R 15
TP_BOT 14
TP_TOP 13
TP_L 12
REG_GND 11
SP+ 10
SP- 9
REG_GND 8
KEY_AD2 7
XRESET 6
BATT_INFO_SW 5
EVER_3.0V 4
KEY_AD3 3
KEY_AD1 2
XCHARGE_LED 1
TO VA-118 BOARD (3/5) CN4005
THROUGH THE FP-618 FLEXIBLE
(PAGE 4-15)
D5207 XX
C5201 XX
D5208 XX
C5202 XX
BT5201 LITHIUM BATTERY
R5201 1k
D5203 UDZSTE-178.2B
LN5201 CH GND
S5203 RESET
LN5202 CH GND
D5205 MAZW082H0LS0
CN5210 4P
1 TP_TOP
2 TP_BOT
3 TP_L
4 TP_R
TO PD-188 BOARD(2/2) CN6202
THROUGH THE PV-140 HARNESS
(PAGE 4-25)
CN5205 2P
1 SP(+)
2 SP(-)
SP901 SPEAKER
FP-626 FLEXIBLE
CN5209 6P
6 REG_GND
5 REG_GND
4 PANEL_REV
3 PANEL_REV
2 REG_GND
1 REG_GND
S5207 (PANEL_XCLOSE/OPEN)
S101 (PANEL REVERSE)
CONTROL SWITCH BLOCK (CF-CX4000)
CN5207 6P
6 XCHARGE_LED
5 EVER_3.0V
4 BATT_INFO_SW
3 KEY_AD1
2 N.C.
1 REG_GND
R5223 220
D5209 XX
D101
CHG(charge)
S101 BACK LIGHT
S102 DSPL/BATT INFO
GND(SEIDEN)
SIGNAL PATH
AUDIO SIGNAL
REC
PB
16

CONTROL SWITCH BLOCK(CF-CX4000),FP-626 FLEXIBLE
are replaced as a block.
So that this PRINTED WIRING BOARD is omitted.

For Schematic Diagram
- Refer to page 4-79 for printed wiring board.

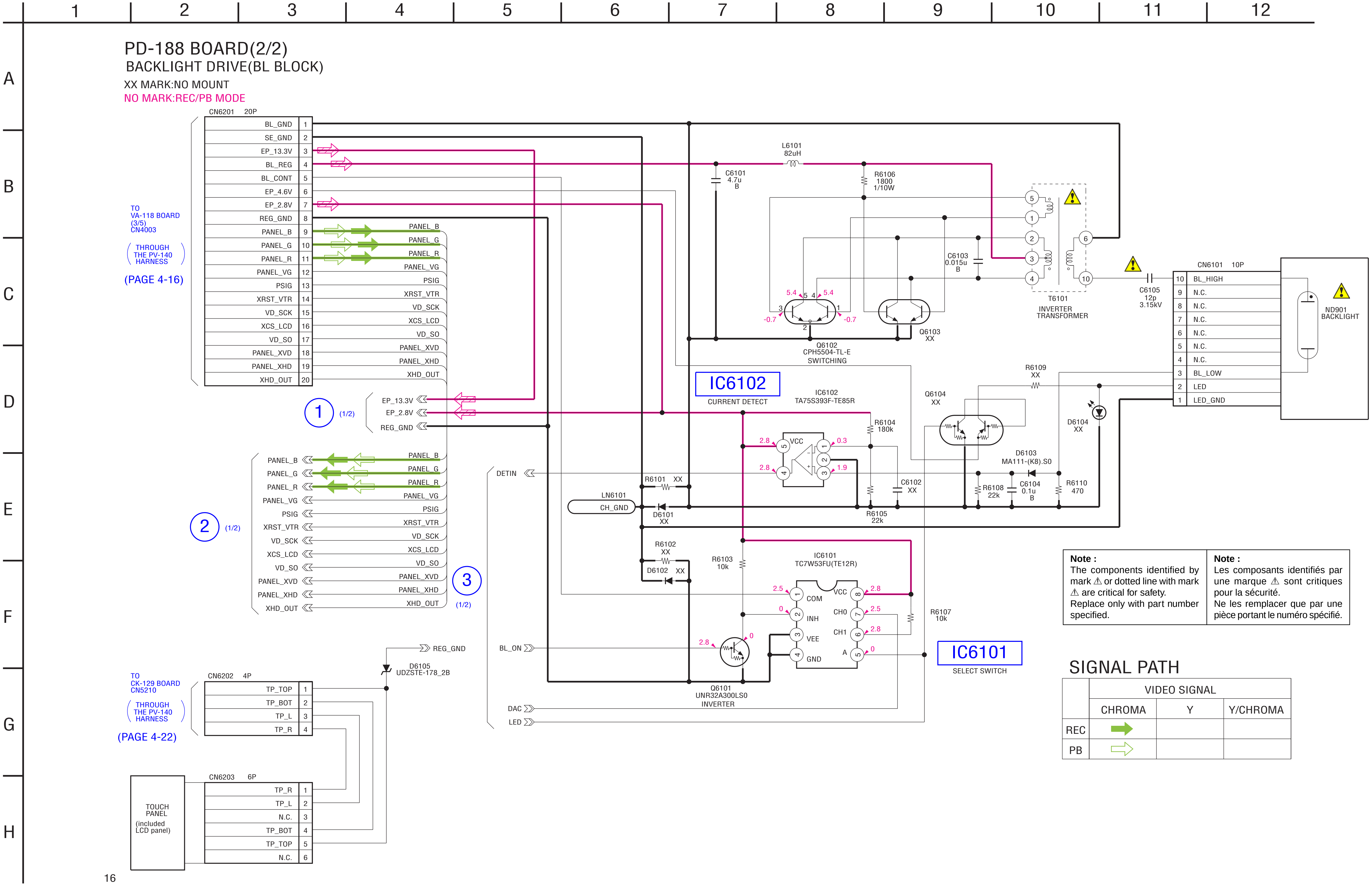

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H I J K L
PD-188 BOARD(1/2)
DRIVER,TG(RGB/TG BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
EP_13.3V
EP_2.8V
REG_GND
PANEL_B
PANEL_G
PANEL_R
XRST_VTR
PSIG
PANEL_VG
XHD_OUT
PANEL_XHD
PANEL_XVD
VD_SO
VD_SCK
XCS_LCD
IC6001
DRIVER
IC6001
CXA3289BR-T4
IC6002
TIMING GENERATOR
IC6002
CXD3512R-T4
Q6004
2SA2078OOLS0
SWITCHING
Q6003
UNR32A300LS0
INVERTER
Q6005
2SA2078OOLS0
LEVEL SHIFT
Q6002
HN1B04FE-Y/GR(TPLR3)
SWITCH
Q6001
HN1B04FE-Y/GR(TPLR3)
SWITCH
D6001
1SV290(TPL3)
D6003
RD3.3UM-T1B
CN6001 24P
TEST1 COM VST VCK EN DWN VDD VSS VDOG VVSSG CS WIDE HST REF SOUT CRext HCK2 HCK1 PSIG G R B RGT TEST2
LCD901
2.5INCH
COLOR LCD
UNIT
(with Touch
PANEL)
DAC
BL_ON
LED
DETIN
(2/2)
16

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

For Schematic Diagram

- Refer to page 4-79 for printed wiring board.


1
2
3
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5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
PD-188 BOARD(2/2)
BACKLIGHT DRIVE(BL BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
CN6201 20P
BL_GND 1
SE_GND 2
EP_13.3V 3
BL_REG 4
BL_CONT 5
EP_4.6V 6
EP_2.8V 7
REG_GND 8
PANEL_B 9
PANEL_G 10
PANEL_R 11
PANEL_VG 12
PSIG 13
XRST_VTR 14
VD_SCK 15
XCS_LCD 16
VD_SO 17
PANEL_XVD 18
PANEL_XHD 19
XHD_OUT 20
TO VA-118 BOARD (3/5) CN4003
THROUGH THE PV-140 HARNESS
(PAGE 4-16)
1 (1/2)
EP_13.3V
EP_2.8V
REG_GND
2 (1/2)
3 (1/2)
PANEL_B
PANEL_G
PANEL_R
PANEL_VG
PSIG
XRST_VTR
VD_SCK
XCS_LCD
VD_SO
PANEL_XVD
PANEL_XHD
XHD_OUT
L6101 82uH
C6101 4.7u B
R6106 1800 1/10W
C6103 0.015u B
Q6102 CPH5504-TL-E SWITCHING
Q6103 XX
5.4
-0.7
T6101 INVERTER TRANSFORMER
C6105 12p 3.15kV
CN6101 10P
10 BL_HIGH
9 N.C.
8 N.C.
7 N.C.
6 N.C.
5 N.C.
4 N.C.
3 BL_LOW
2 LED
1 LED_GND
ND901 BACKLIGHT
R6109 XX
Q6104 XX
D6104 XX
IC6102
CURRENT DETECT
IC6102 TA75S393F-TE85R
R6104 180k
VCC
2.8
0.3
1.9
C6102 XX
D6103 MA111-(K8).S0
R6108 22k
C6104 0.1u B
R6110 470
R6105 22k
DETIN
R6101 XX
LN6101
CH_GND
D6101 XX
R6102 XX
D6102 XX
R6103 10k
IC6101 TC7W53FU(TE12R)
COM
INH
VEE
GND
CH0
CH1
A
2.5
0
R6107 10k
IC6101
SELECT SWITCH
BL_ON
Q6101 UNR32A300LS0 INVERTER
DAC
LED
REG_GND
D6105 UDZSTE-17B_2B
TO CK-129 BOARD CN5210
THROUGH THE PV-140 HARNESS
(PAGE 4-22)
CN6202 4P
TP_TOP 1
TP_BOT 2
TP_L 3
TP_R 4
CN6203 6P
TP_R 1
TP_L 2
N.C. 3
TP_BOT 4
TP_TOP 5
N.C. 6
TOUCH PANEL (included LCD panel)
16

Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

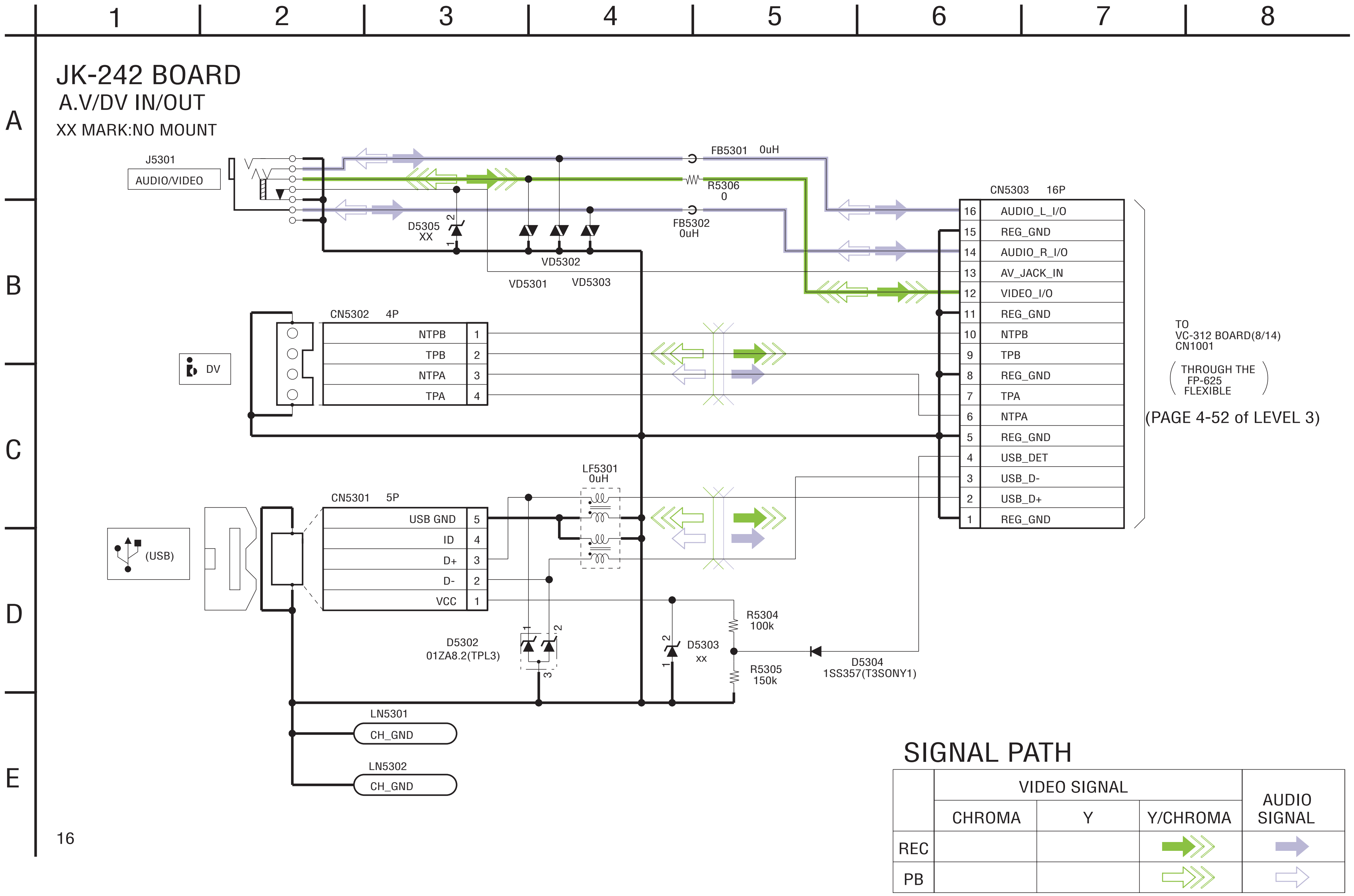
Note :
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

For Schematic Diagram

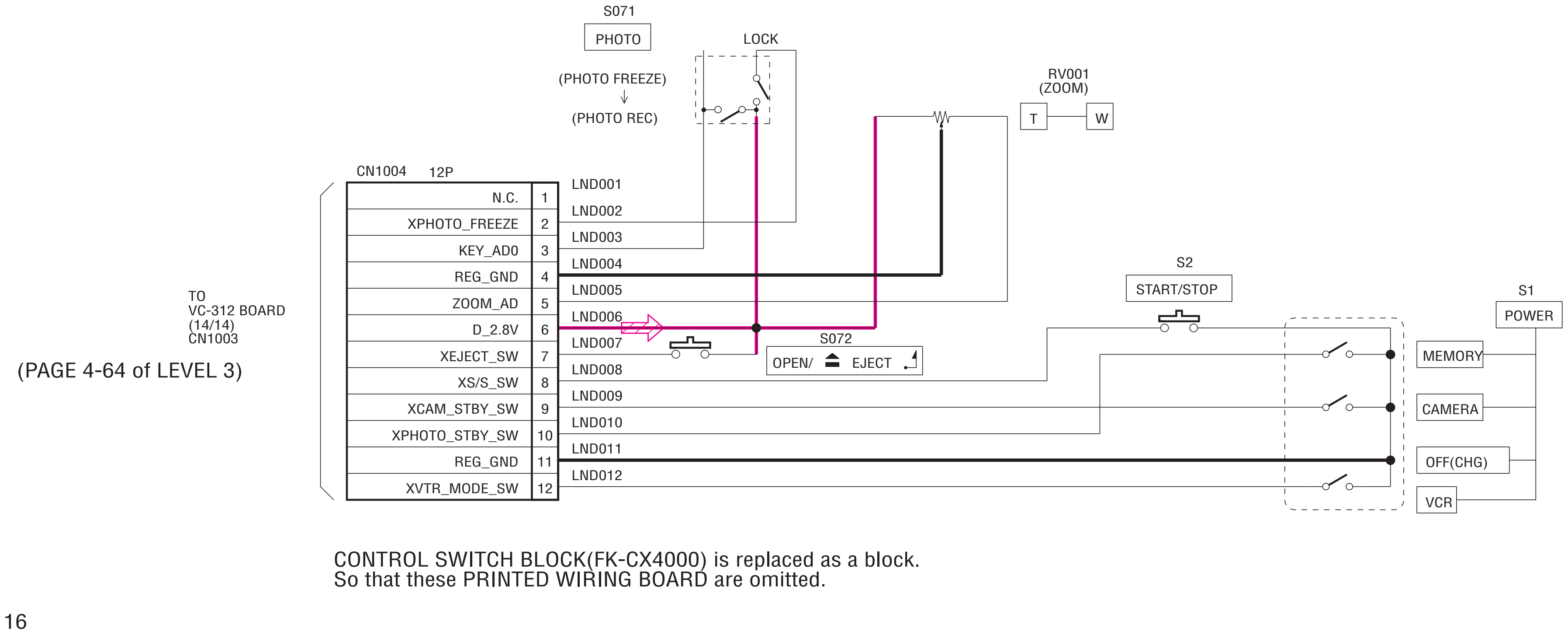
- Refer to page 4-81 for printed wiring board.


1
2
3
4
5
6
7
8
A
B
C
D
E
JK-242 BOARD
A.V/DV IN/OUT
XX MARK:NO MOUNT
J5301
AUDIO/VIDEO
FB5301 0uH
R5306 0
FB5302 0uH
D5305 XX
VD5302
VD5301
VD5303
CN5303 16P
16 AUDIO_L_I/O
15 REG_GND
14 AUDIO_R_I/O
13 AV_JACK_IN
12 VIDEO_I/O
11 REG_GND
10 NTPB
9 TPB
8 REG_GND
7 TPA
6 NTPA
5 REG_GND
4 USB_DET
3 USB_D-
2 USB_D+
1 REG_GND
TO VC-312 BOARD(8/14) CN1001
THROUGH THE FP-625 FLEXIBLE
(PAGE 4-52 of LEVEL 3)
CN5302 4P
NTPB 1
TPB 2
NTPA 3
TPA 4
DV
LF5301 0uH
CN5301 5P
USB GND 5
ID 4
D+ 3
D- 2
VCC 1
(USB)
D5302
01ZA8.2(TPL3)
D5303 xx
R5304 100k
R5305 150k
D5304
1SS357(T3SONY1)
LN5301
CH_GND
LN5302
CH_GND
16
SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
AUDIO SIGNAL
REC
PB

CONTROL SWITCH BLOCK

(FK-CX4000)

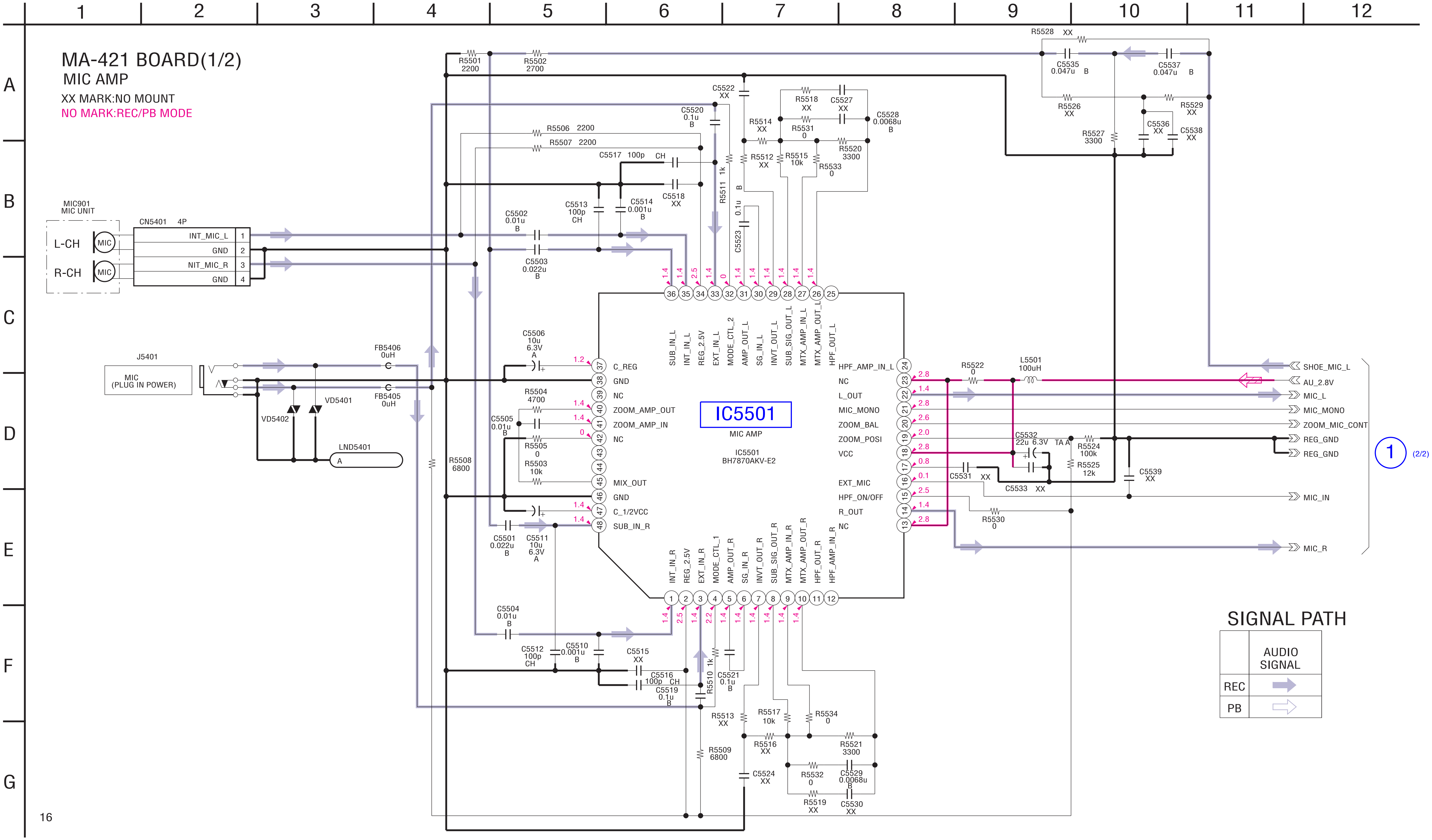
XX MARK:NO MOUNT


S071
PHOTO
(PHOTO FREEZE)
↓
(PHOTO REC)
LOCK
RV001
(ZOOM)
T
W
CN1004 12P
N.C. 1 LND001
XPHOTO_FREEZE 2 LND002
KEY_AD0 3 LND003
REG_GND 4 LND004
ZOOM_AD 5 LND005
D_2.8V 6 LND006
XEJECT_SW 7 LND007
XS/S_SW 8 LND008
XCAM_STBY_SW 9 LND009
XPHOTO_STBY_SW 10 LND010
REG_GND 11 LND011
XVTR_MODE_SW 12 LND012
TO
VC-312 BOARD
(14/14)
CN1003
(PAGE 4-64 of LEVEL 3)
S072
OPEN/ ⏏ EJECT
S2
START/STOP
S1
POWER
MEMORY
CAMERA
OFF(CHG)
VCR
16

CONTROL SWITCH BLOCK(FK-CX4000) is replaced as a block.
So that these PRINTED WIRING BOARD are omitted.

For Schematic Diagram

- Refer to page 4-83 for printed wiring board.


1
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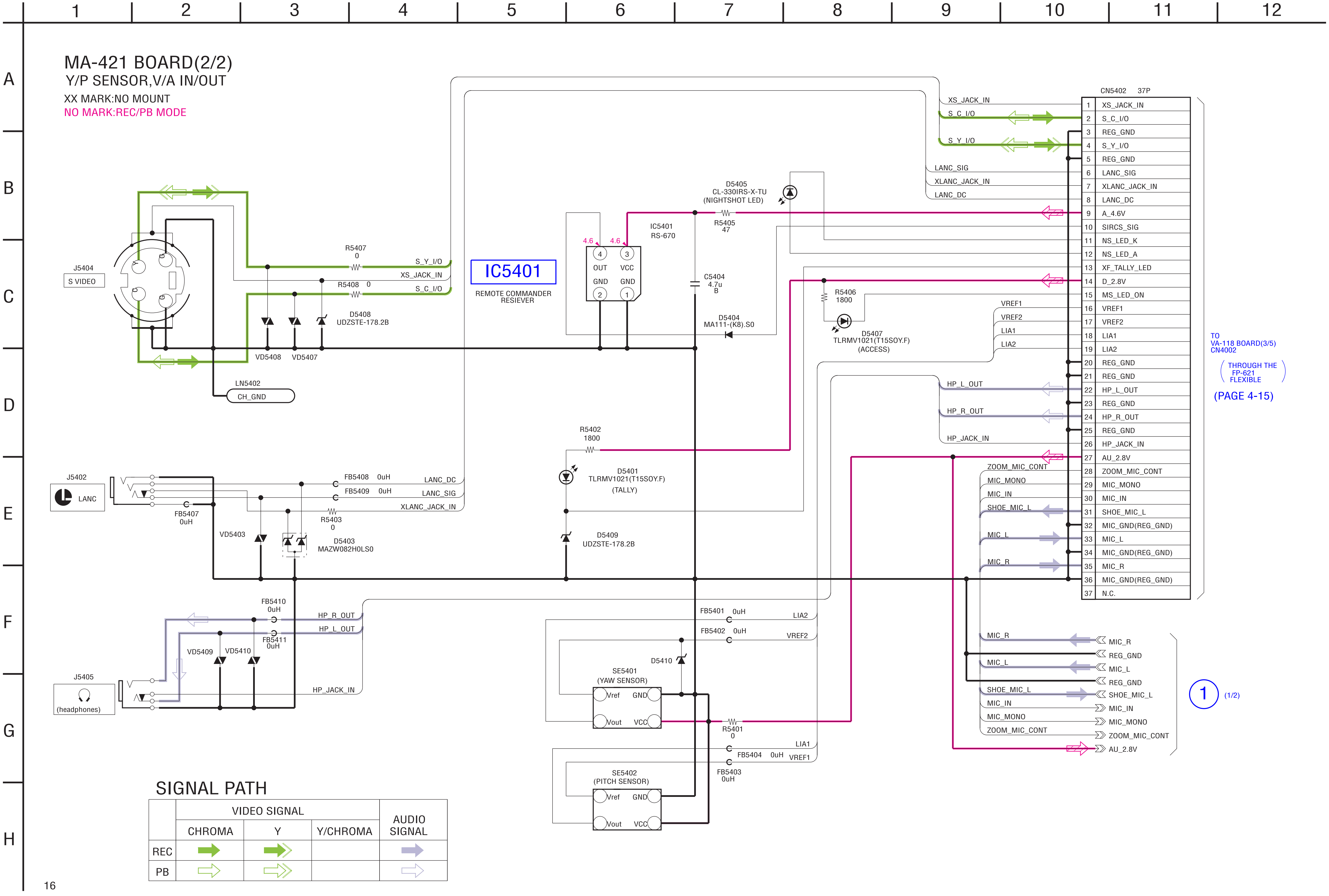
9
10
11
12
A
B
C
D
E
F
G
MA-421 BOARD(1/2)
MIC AMP
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
MIC901
MIC UNIT
L-CH
R-CH
MIC
CN5401 4P
INT_MIC_L 1
GND 2
NIT_MIC_R 3
GND 4
J5401
MIC
(PLUG IN POWER)
VD5401
VD5402
LND5401
A
FB5406
0uH
FB5405
0uH
R5501
2200
R5502
2700
R5506 2200
R5507 2200
R5508
6800
C5502
0.01u
B
C5503
0.022u
B
C5513
100p
CH
C5514
0.001u
B
C5517 100p CH
C5518
XX
C5520
0.1u
B
C5522
XX
R5511 1k
C5523 0.1u B
R5514
XX
R5512
XX
R5515
10k
R5518
XX
R5531
0
C5527
XX
C5528
0.0068u
B
R5520
3300
R5533
0
R5528 XX
C5535
0.047u B
C5537
0.047u B
R5526
XX
R5527
3300
C5536
XX
R5529
XX
C5538
XX
C5506
10u
6.3V
A
R5504
4700
C5505
0.01u
B
R5505
0
R5503
10k
C5501
0.022u
B
C5511
10u
6.3V
A
C5504
0.01u
B
C5512
100p
CH
C5510
0.001u
B
C5515
XX
C5516
100p CH
C5519
0.1u
B
R5510 1k
C5521
0.1u
B
R5513
XX
R5509
6800
R5517
10k
R5534
0
R5516
XX
R5521
3300
C5524
XX
R5532
0
C5529
0.0068u
B
R5519
XX
C5530
XX
IC5501
MIC AMP
IC5501
BH7870AKV-E2
C_REG 37
GND 38
NC 39
ZOOM_AMP_OUT 40
ZOOM_AMP_IN 41
NC 42
43
44
MIX_OUT 45
GND 46
C_1/2VCC 47
SUB_IN_R 48
SUB_IN_L 36
INT_IN_L 35
REG_2.5V 34
EXT_IN_L 33
MODE_CTL_2 32
AMP_OUT_L 31
SG_IN_L 30
INVT_OUT_L 29
SUB_SIG_OUT_L 28
MTX_AMP_IN_L 27
MTX_AMP_OUT_L 26
HPF_OUT_L 25
INT_IN_R 1
REG_2.5V 2
EXT_IN_R 3
MODE_CTL_1 4
AMP_OUT_R 5
SG_IN_R 6
INVT_OUT_R 7
SUB_SIG_OUT_R 8
MTX_AMP_IN_R 9
MTX_AMP_OUT_R 10
HPF_OUT_R 11
HPF_AMP_IN_R 12
HPF_AMP_IN_L 24
NC 23
L_OUT 22
MIC_MONO 21
ZOOM_BAL 20
ZOOM_POSI 19
VCC 18
17
EXT_MIC 16
HPF_ON/OFF 15
R_OUT 14
NC 13
1.2
1.4
1.4
0
1.4
1.4
1.4
1.4
1.4
2.5
1.4
0
1.4
1.4
1.4
1.4
1.4
1.4
1.4
2.5
1.4
2.2
1.4
1.4
1.4
1.4
1.4
1.4
2.8
1.4
2.8
2.6
2.0
2.8
0.8
0.1
2.5
1.4
2.8
R5522
0
L5501
100uH
C5532
22u 6.3V TA A
R5524
100k
R5525
12k
C5531 XX
C5533 XX
C5539
XX
R5530
0
SHOE_MIC_L
AU_2.8V
MIC_L
MIC_MONO
ZOOM_MIC_CONT
REG_GND
REG_GND
MIC_IN
MIC_R
1
(2/2)
16
SIGNAL PATH
AUDIO SIGNAL
REC ➡
PB ⇨

COVER

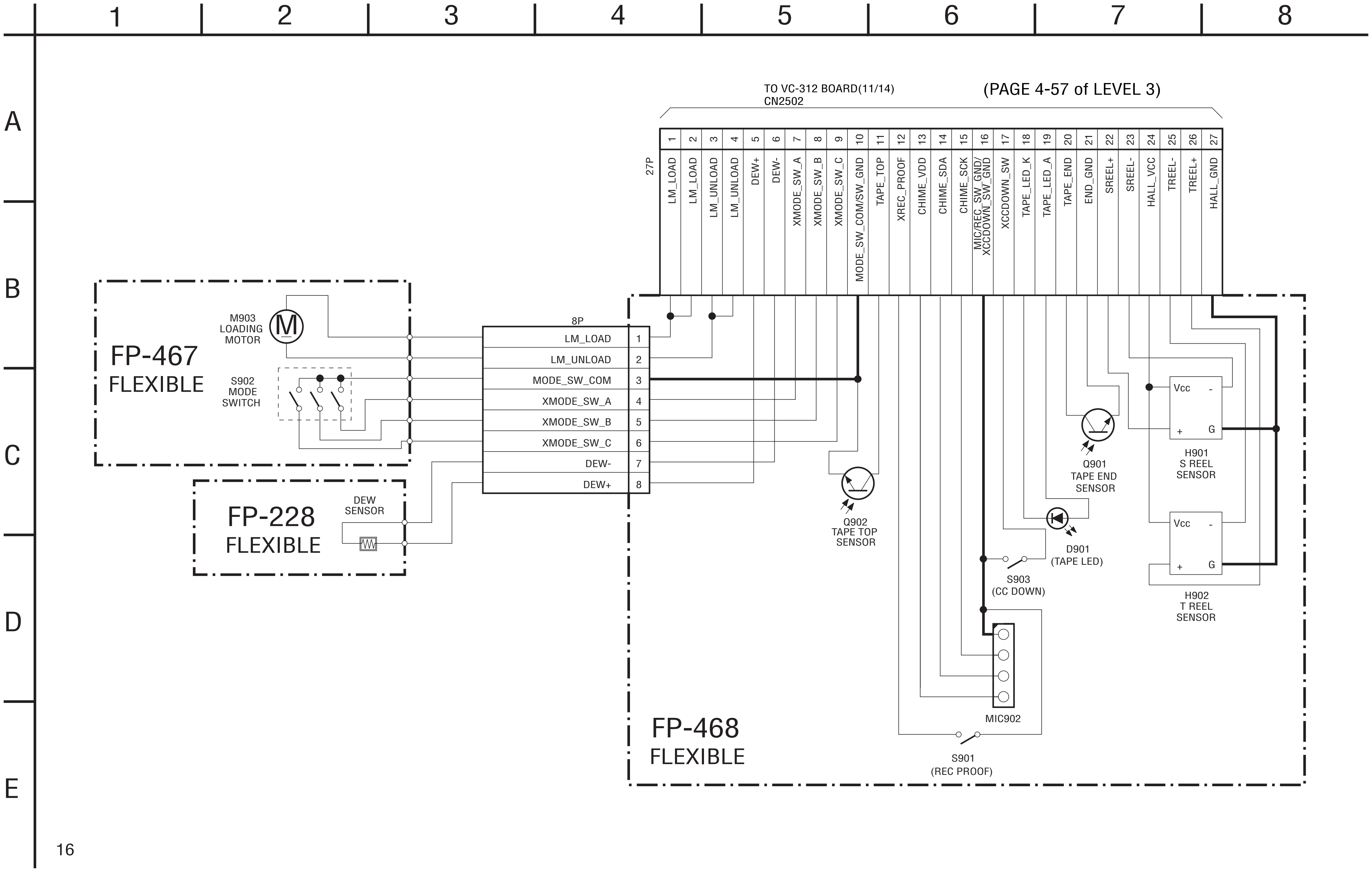
For Schematic Diagram
- Refer to page 4-83 for printed wiring board.


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
MA-421 BOARD(2/2)
Y/P SENSOR,V/A IN/OUT
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
J5404
S VIDEO
R5407
0
R5408 0
S_Y_I/O
XS_JACK_IN
S_C_I/O
D5408
UDZSTE-178.2B
VD5408
VD5407
LN5402
CH_GND
IC5401
REMOTE COMMANDER
RESIEVER
4.6
4.6
4
3
OUT
VCC
GND
GND
2
1
IC5401
RS-670
D5405
CL-330IRS-X-TU
(NIGHTSHOT LED)
R5405
47
C5404
4.7u
B
R5406
1800
D5404
MA111-(K8).S0
D5407
TLRMV1021(T15SOY.F)
(ACCESS)
R5402
1800
D5401
TLRMV1021(T15SOY.F)
(TALLY)
D5409
UDZSTE-178.2B
J5402
LANC
FB5407
0uH
FB5408 0uH
FB5409 0uH
LANC_DC
LANC_SIG
XLANC_JACK_IN
R5403
0
VD5403
D5403
MAZW082H0LS0
FB5410
0uH
FB5411
0uH
HP_R_OUT
HP_L_OUT
HP_JACK_IN
VD5409
VD5410
J5405
(headphones)
FB5401 0uH
FB5402 0uH
LIA2
VREF2
D5410
SE5401
(YAW SENSOR)
Vref
GND
Vout
VCC
R5401
0
LIA1
FB5404 0uH
VREF1
FB5403
0uH
SE5402
(PITCH SENSOR)
Vref
GND
Vout
VCC
CN5402 37P
1 XS_JACK_IN
2 S_C_I/O
3 REG_GND
4 S_Y_I/O
5 REG_GND
6 LANC_SIG
7 XLANC_JACK_IN
8 LANC_DC
9 A_4.6V
10 SIRCS_SIG
11 NS_LED_K
12 NS_LED_A
13 XF_TALLY_LED
14 D_2.8V
15 MS_LED_ON
16 VREF1
17 VREF2
18 LIA1
19 LIA2
20 REG_GND
21 REG_GND
22 HP_L_OUT
23 REG_GND
24 HP_R_OUT
25 REG_GND
26 HP_JACK_IN
27 AU_2.8V
28 ZOOM_MIC_CONT
29 MIC_MONO
30 MIC_IN
31 SHOE_MIC_L
32 MIC_GND(REG_GND)
33 MIC_L
34 MIC_GND(REG_GND)
35 MIC_R
36 MIC_GND(REG_GND)
37 N.C.
TO
VA-118 BOARD(3/5)
CN4002
THROUGH THE
FP-621
FLEXIBLE
(PAGE 4-15)
MIC_R
REG_GND
MIC_L
REG_GND
SHOE_MIC_L
MIC_IN
MIC_MONO
ZOOM_MIC_CONT
AU_2.8V
1
(1/2)
16

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		➡
PB	⇨	⇨		⇨

For Schematic Diagram
- Refer to page 4-71 for flexible wiring board.


1
2
3
4
5
6
7
8
A
B
C
D
E
TO VC-312 BOARD(11/14)
CN2502
(PAGE 4-57 of LEVEL 3)
27P
1 LM_LOAD
2 LM_LOAD
3 LM_UNLOAD
4 LM_UNLOAD
5 DEW+
6 DEW-
7 XMODE_SW_A
8 XMODE_SW_B
9 XMODE_SW_C
10 MODE_SW_COM/SW_GND
11 TAPE_TOP
12 XREC_PROOF
13 CHIME_VDD
14 CHIME_SDA
15 CHIME_SCK
16 MIC/REC_SW_GND/XCCDOWN_SW_GND
17 XCCDOWN_SW
18 TAPE_LED_K
19 TAPE_LED_A
20 TAPE_END
21 END_GND
22 SREEL+
23 SREEL-
24 HALL_VCC
25 TREEL-
26 TREEL+
27 HALL_GND
FP-467
FLEXIBLE
M903
LOADING
MOTOR
M
S902
MODE
SWITCH
8P
LM_LOAD 1
LM_UNLOAD 2
MODE_SW_COM 3
XMODE_SW_A 4
XMODE_SW_B 5
XMODE_SW_C 6
DEW- 7
DEW+ 8
FP-228
FLEXIBLE
DEW
SENSOR
Q902
TAPE TOP
SENSOR
Q901
TAPE END
SENSOR
D901
(TAPE LED)
S903
(CC DOWN)
Vcc
-
+
G
H901
S REEL
SENSOR
Vcc
-
+
G
H902
T REEL
SENSOR
MIC902
S901
(REC PROOF)
FP-468
FLEXIBLE
16

Schematic diagram of the VC-312 board are not shown.
Pages from 4-37 to 4-64 are not shown.

COVER

4-3. PRINTED WIRING BOARDS

Link

- CD-430 BOARD
- VA-118 BOARD (SIDE B)
- LB-085 BOARD
- CK-129 BOARD
- FP-626 FLEXIBLE BOARD
- PD-188 BOARD
- FP-467/468/228 FLEXIBLE BOARD (MD BLOCK)
- JK-242 BOARD
- VA-118 BOARD (SIDE A)
- MA-421 BOARD

- COMMON NOTE FOR PRINTED WIRING BOARDS
- WAVEFORMS
- MOUNTED PARTS LOCATION
- CIRCUIT BOARDS LOCATION
- FLEXIBLE BOARDS LOCATION

COVER

4-3. PRINTED WIRING BOARDS

THIS NOTE IS COMMON FOR WIRING BOARDS
(In addition to this, the necessary note is printed in each block)

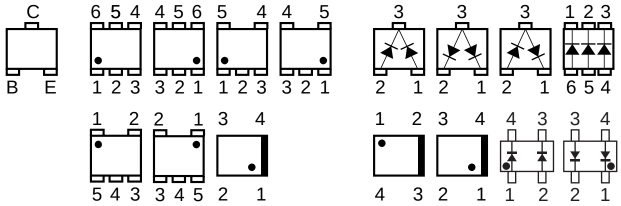
(For printed wiring boards)

- : Uses unleaded solder.
- 🟩 : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are a few cases that the part printed on diagram isn't mounted in this model.
- ▭ : panel designation

- Chip parts.

Transistor

Diode



BOARD INFORMATION

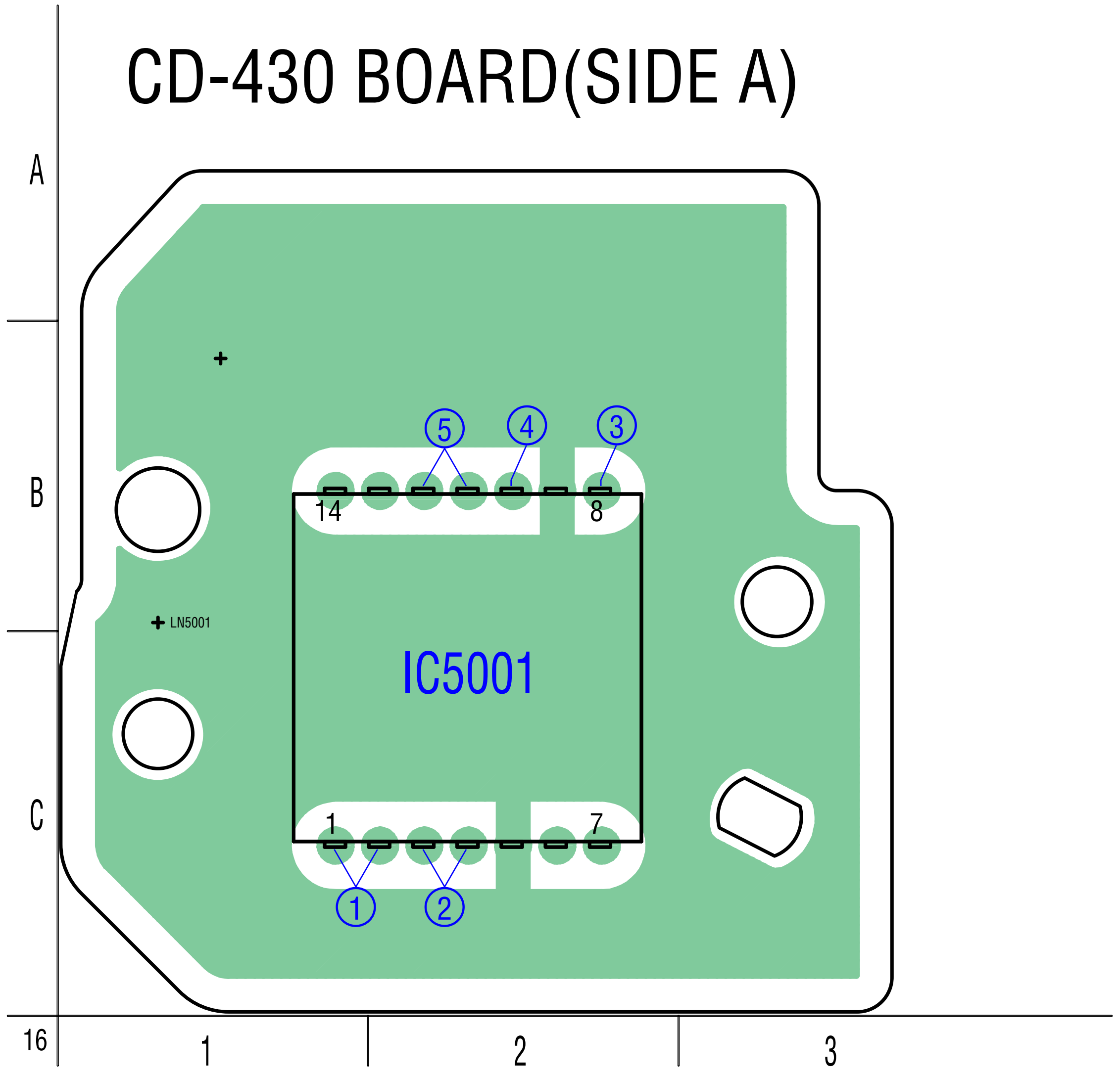
board name	parts location (shown on page)	waveform (shown on page)	pattern		CSP IC
			number of layers	layers not shown	
CD-430	4-93	4-89	6	2 to 5	–
LB-085	4-93	–	6	2 to 5	–
FP-626 FLEXIBLE	–	–	1	–	–
VA-118	4-93	4-89	6	2 to 5	–
CK-129	4-94	–	6	2 to 5	–
PD-188	4-94	4-90	6	2 to 5	–
JK-242	4-94	–	6	2 to 5	–
MA-421	4-94	–	6	2 to 5	–
VC-312	4-95	4-91,4-92	8	2 to 7	IC2101, 2201, 2301, 2601, 2704, 2803

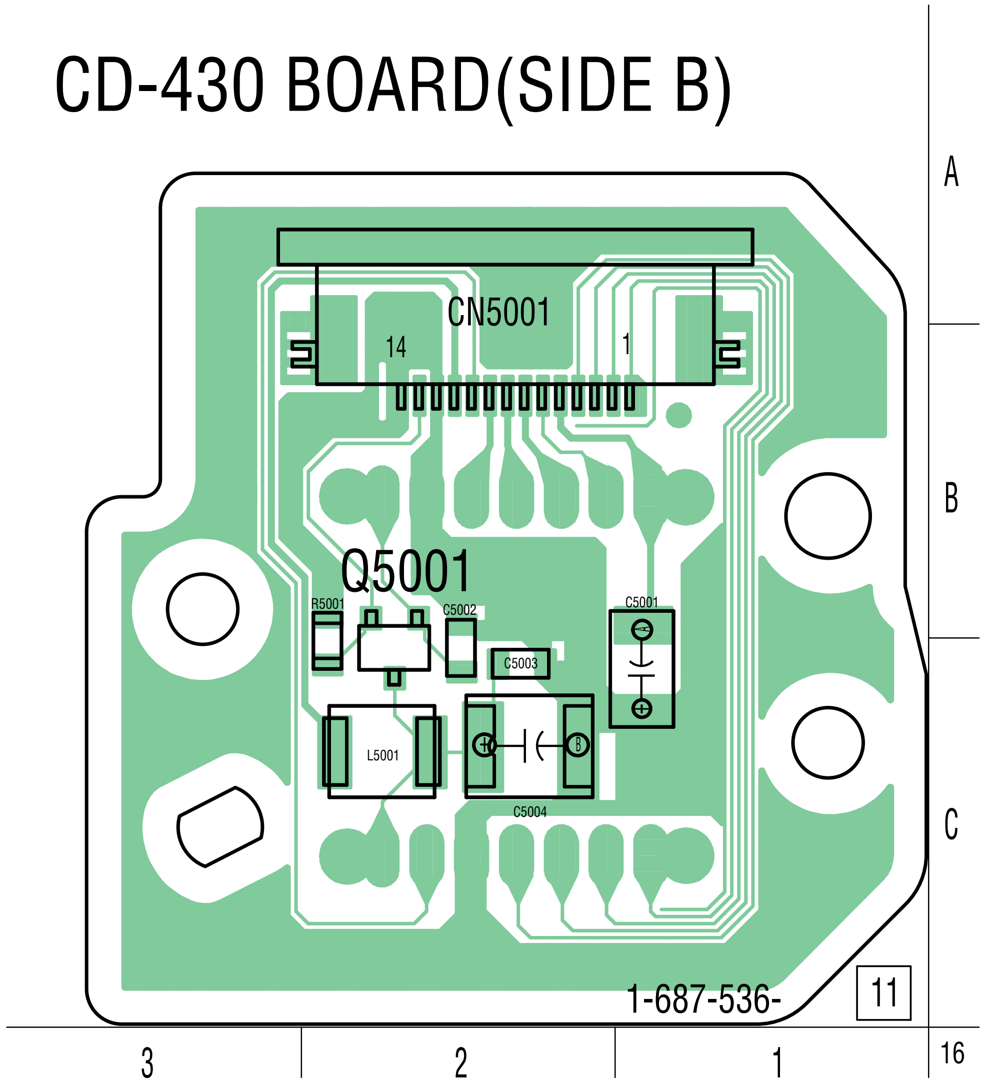
4-3. PRINTED WIRING BOARDS

CD-430 (CCD IMAGER) PRINTED WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.


CD-430 BOARD(SIDE A)
A
B
C
+
⑤
④
③
14
8
+ LN5001
IC5001
1
7
①
②
16
1
2
3

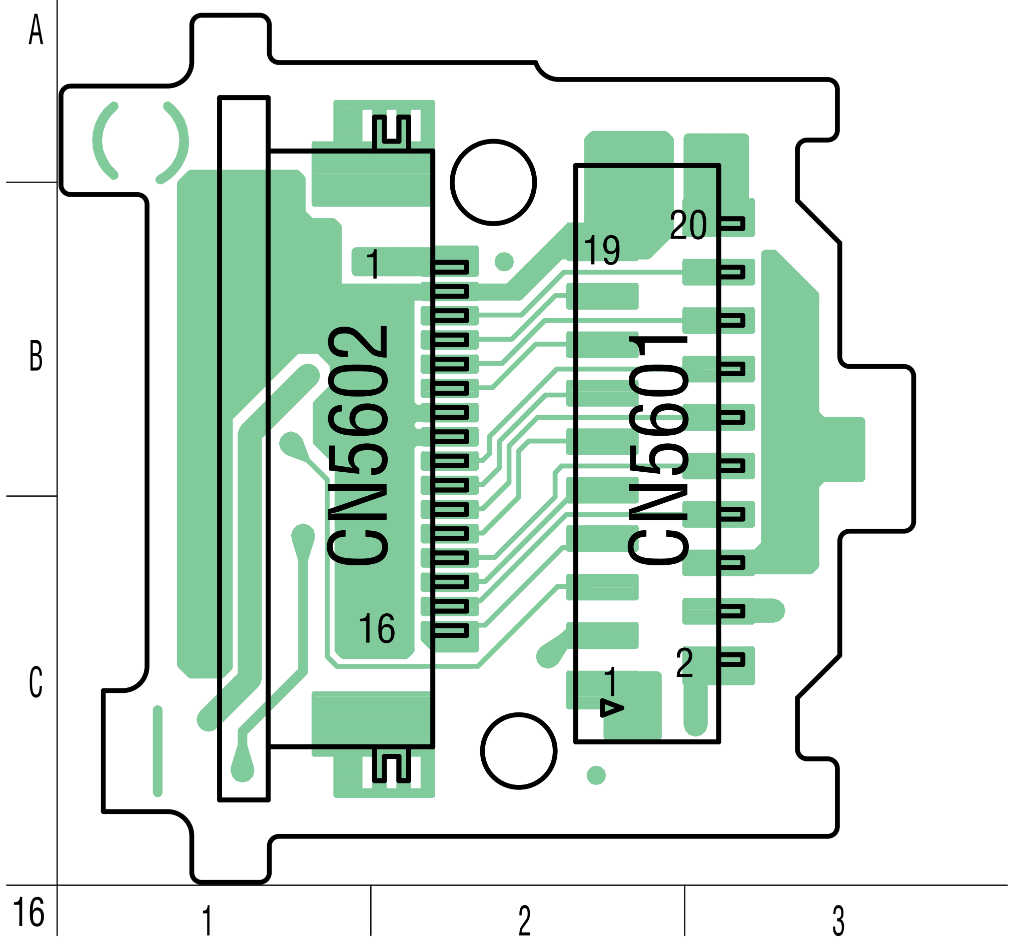

CD-430 BOARD(SIDE B)
CN5001
14
1
Q5001
R5001
C5002
C5001
C5003
L5001
C5004
1-687-536-
11
A
B
C
3
2
1
16

LB-085 (EVF, BACK LIGHT) PRINTED WIRING BOARD

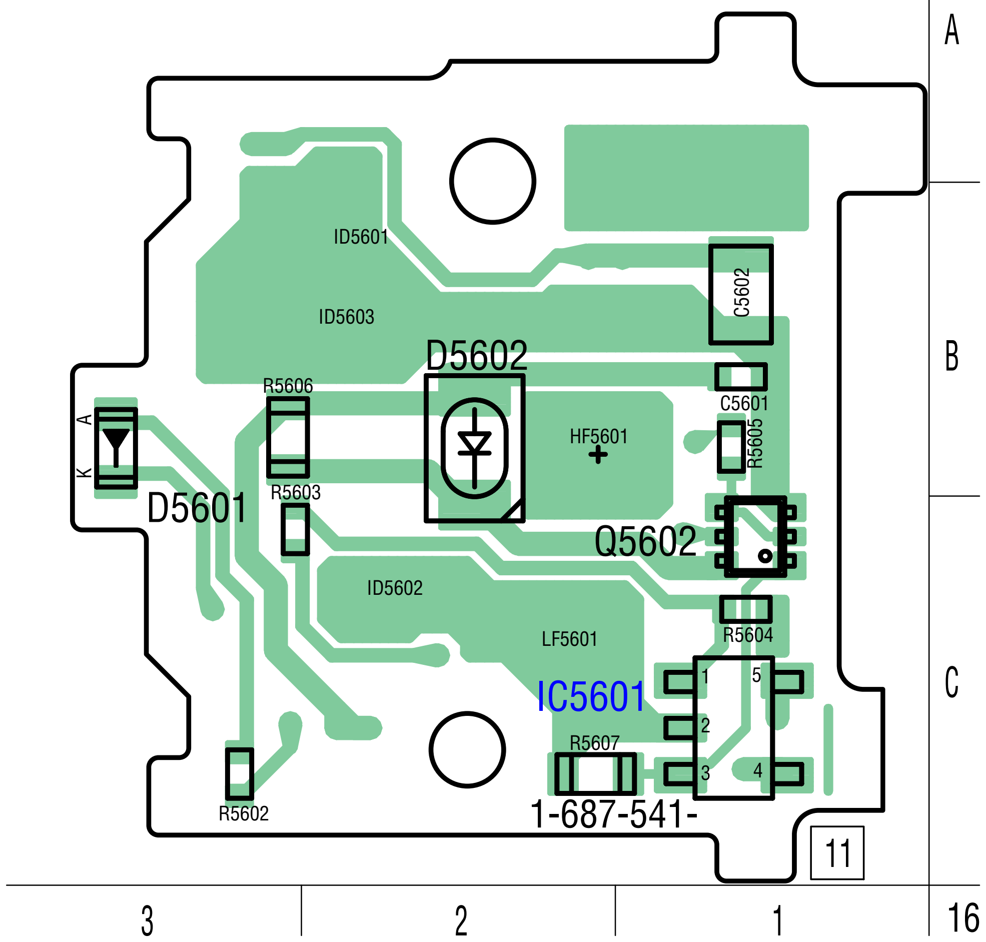
- Refer to page 4-65 for common note for printed wiring board.

- 🄵 : Uses unleaded solder.

LB-085 BOARD (SIDE A)


A
B
C
CN5602
1
16
CN5601
19
20
1
2
16
1
2
3

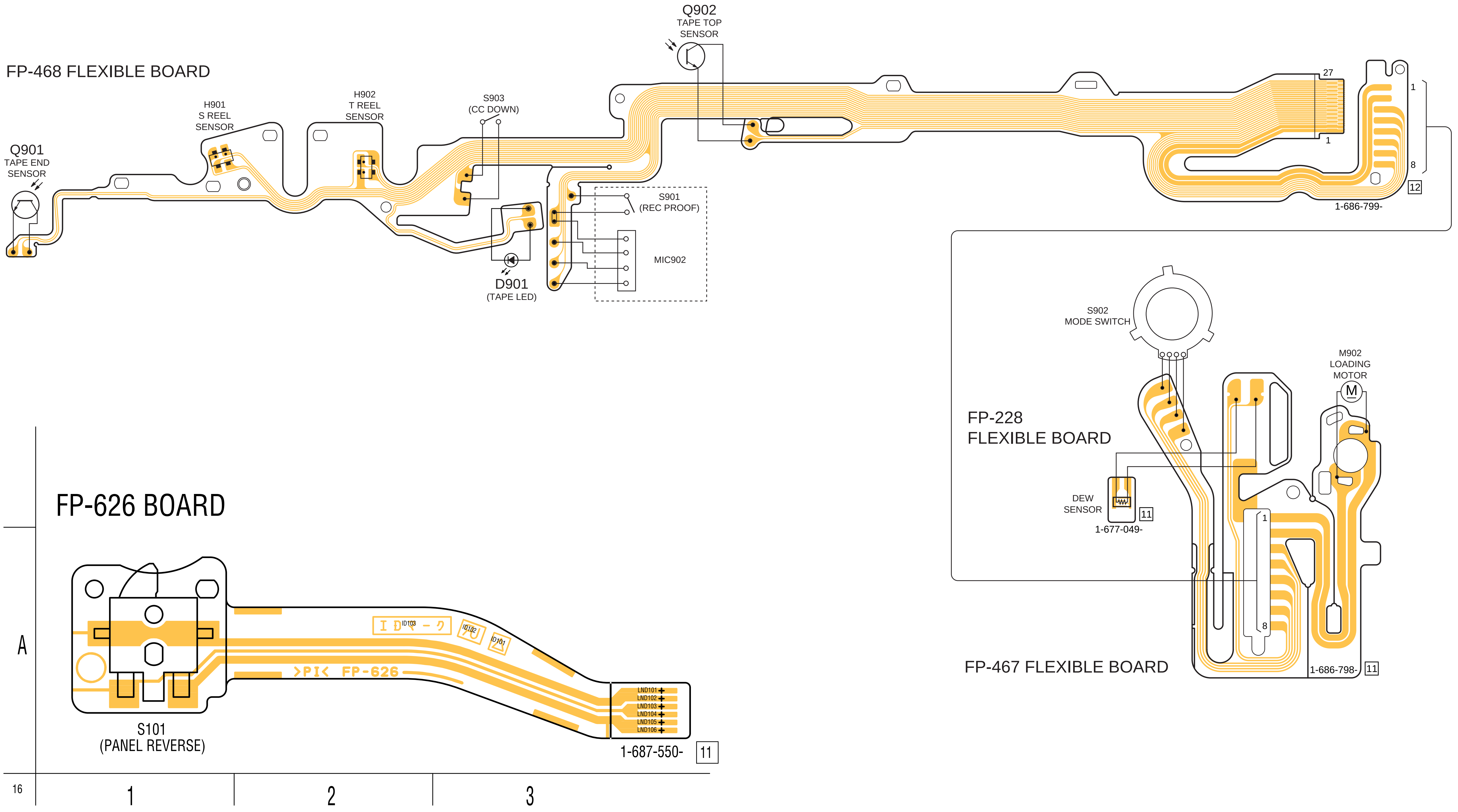
LB-085 BOARD (SIDE B)


A
B
C
ID5601
ID5603
D5602
C5602
R5606
C5601
HF5601
R5605
A
K
D5601
R5603
Q5602
ID5602
LF5601
R5604
IC5601
1
5
2
3
4
R5607
R5602
1-687-541-
11
3
2
1
16

FP-467/468/228 FLEXIBLE WIRING BOARD (MD BLOCK)
FP-626 FLEXIBLE WIRING BOARD

• Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.

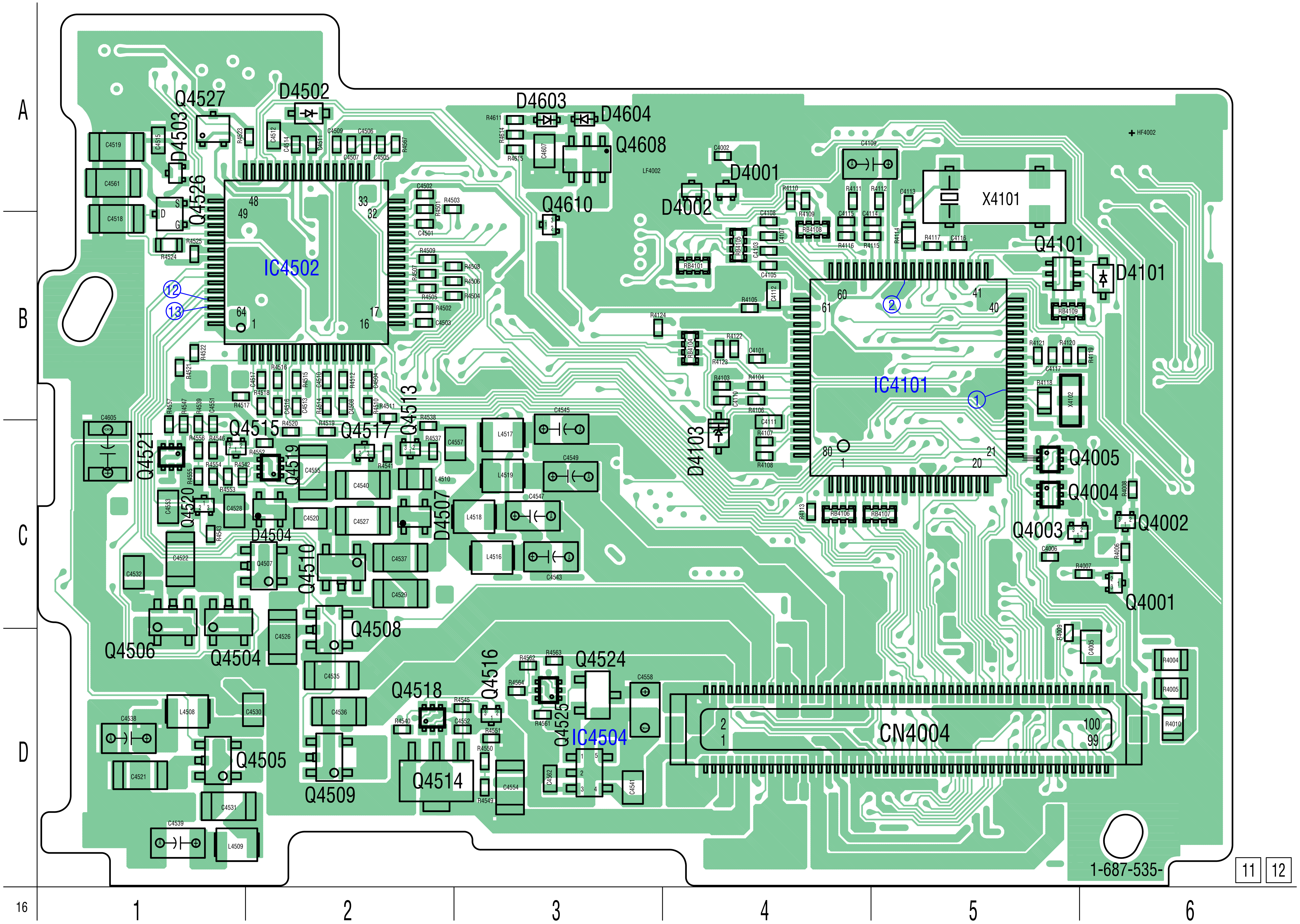

FP-468 FLEXIBLE BOARD
Q901
TAPE END
SENSOR
H901
S REEL
SENSOR
H902
T REEL
SENSOR
S903
(CC DOWN)
Q902
TAPE TOP
SENSOR
S901
(REC PROOF)
MIC902
D901
(TAPE LED)
27
1
1
8
12
1-686-799-
S902
MODE SWITCH
M902
LOADING
MOTOR
M
FP-228
FLEXIBLE BOARD
DEW
SENSOR
11
1-677-049-
1
8
FP-467 FLEXIBLE BOARD
1-686-798-
11
FP-626 BOARD
A
ID103
ID102
ID101
FP-626
LND101
LND102
LND103
LND104
LND105
LND106
S101
(PANEL REVERSE)
1-687-550-
11
16
1
2
3

VA-118 (RGB DRIVE, TG, HI CONTROL, Y/P SENSOR AMP, CONNECTOR, DC/DC COVERTER, POWER IN, CHARGE) PRINTED WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.

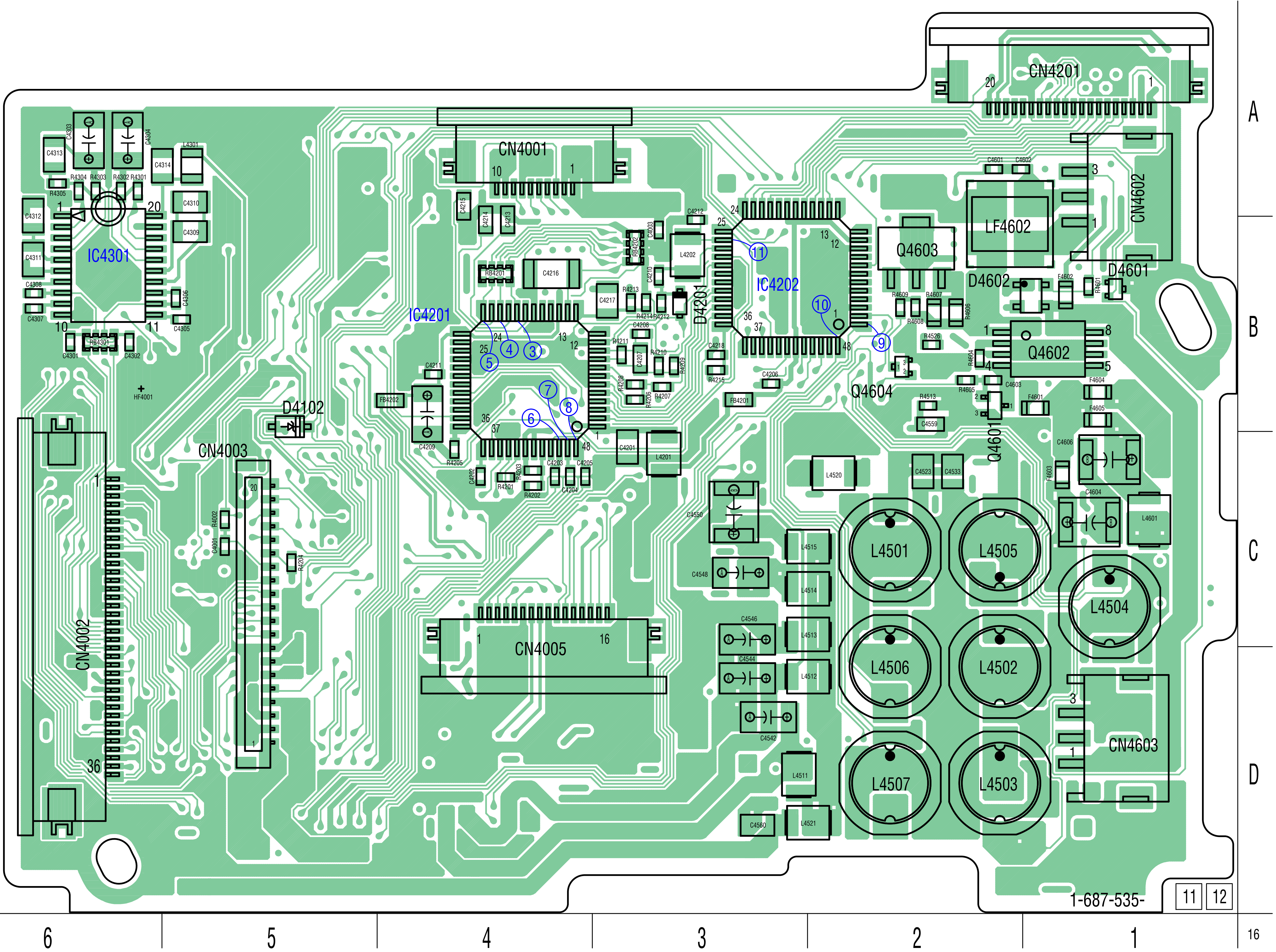
- LF : Uses unleaded solder.

VA-118 BOARD(SIDE A)


A
B
C
D
1
2
3
4
5
6
16
Q4527
D4502
D4503
Q4526
D4603
D4604
Q4608
D4001
D4002
Q4610
X4101
Q4101
D4101
IC4502
IC4101
12
13
1
2
48
49
33
32
64
17
16
60
61
41
40
80
21
20
Q4515
Q4517
Q4513
Q4521
Q4519
Q4520
D4504
D4507
Q4510
D4103
Q4005
Q4004
Q4003
Q4002
Q4001
Q4506
Q4504
Q4508
Q4518
Q4516
Q4524
Q4525
IC4504
Q4505
Q4509
Q4514
CN4004
100
99
C4519
C4561
C4518
C4605
C4522
C4532
C4538
C4521
C4531
C4539
L4508
L4509
C4530
C4555
C4540
C4527
C4520
C4528
C4537
C4529
C4526
C4535
C4536
L4517
L4519
L4518
L4516
C4545
C4549
C4547
C4543
C4557
C4558
C4554
C4109
R4004
R4005
R4010
HF4002
LF4002
1-687-535-
11
12

- Refer to page 4-65 for common note for printed wiring board.
- LF : Uses unleaded solder.

VA-118 BOARD(SIDE B)


CN4201
20
1
CN4001
10
1
IC4301
20
1
10
11
C4313
C4303
C4304
L4301
C4314
R4304
R4303
R4302
R4301
R4305
C4310
C4309
C4312
C4311
C4308
C4307
C4306
C4305
C4301
RB4301
C4302
HF4001
D4102
CN4003
20
1
R4002
C4001
R4204
CN4002
1
36
IC4201
24
25
13
12
36
37
48
1
C4215
C4214
C4213
RB4201
C4216
C4211
FB4202
C4209
R4205
C4202
R4201
R4203
R4202
C4203
C4205
C4204
C4201
L4201
C4217
R4213
R4214
R4212
C4208
R4211
C4207
R4210
R4209
R4208
R4206
R4207
RB4202
C4603
C4210
L4202
C4212
D4201
C4218
R4215
FB4201
IC4202
24
25
13
12
36
37
48
1
C4206
Q4603
Q4604
LF4602
C4601
C4602
CN4602
3
1
D4602
F4602
R4601
D4601
R4609
R4607
R4608
R4606
R4526
Q4602
8
5
1
4
R4604
R4605
R4513
C4559
C4603
F4601
F4604
F4605
Q4601
C4606
F4603
C4604
L4601
L4520
C4523
C4533
C4550
C4548
L4515
L4514
C4546
L4513
C4544
L4512
C4542
L4511
C4560
L4521
L4501
L4505
L4504
L4506
L4502
L4507
L4503
CN4005
1
16
CN4603
3
1
1-687-535-
11
12
A
B
C
D
6
5
4
3
2
1
16

COVER

4-2. SCHEMATIC DIAGRAMS

4-3. PRINTED WIRING BOARDS

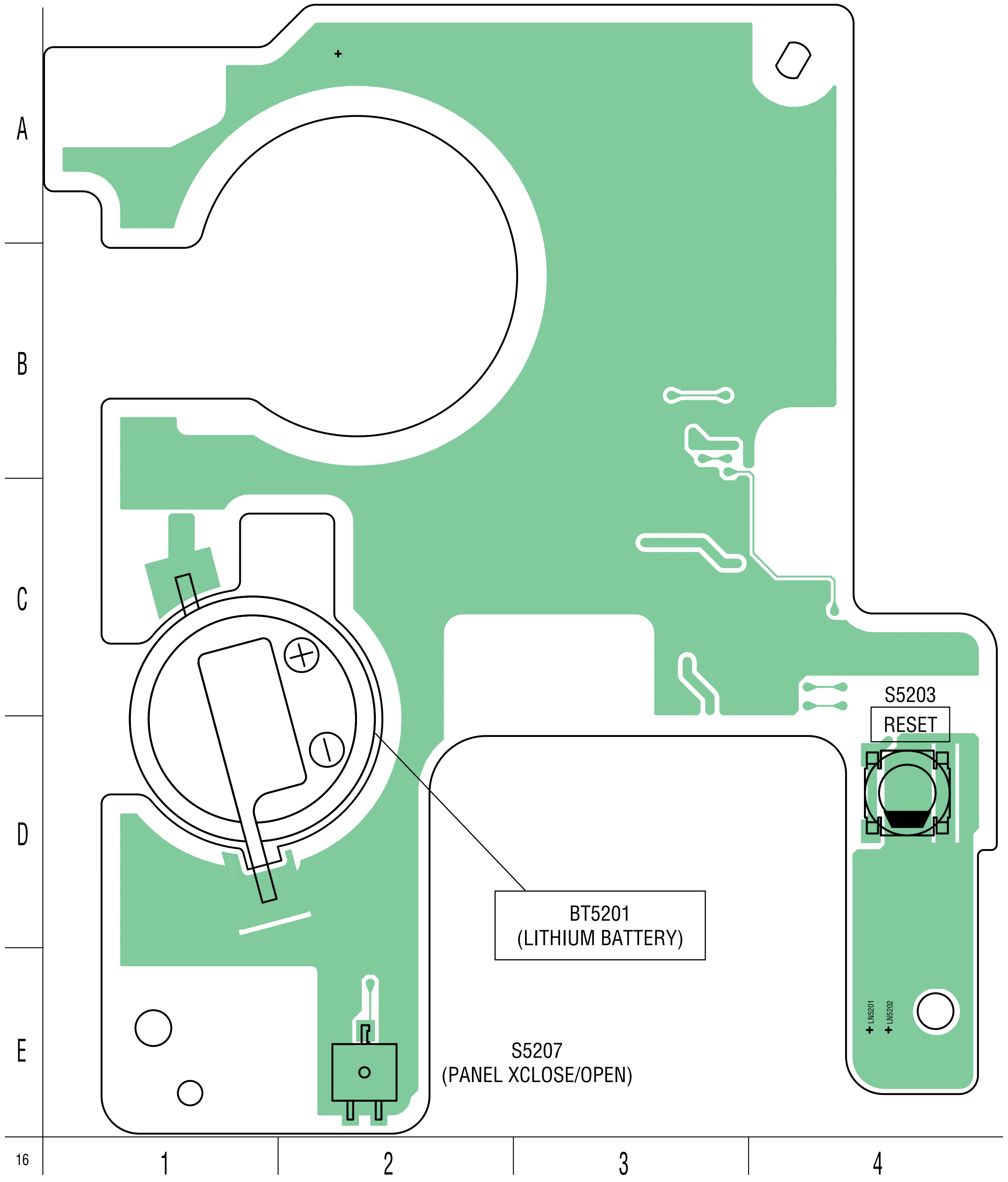
MOUNTED PARTS LOCATION

CK-129 (FUNCTION SWITCH) PRINTED WIRING BOARD

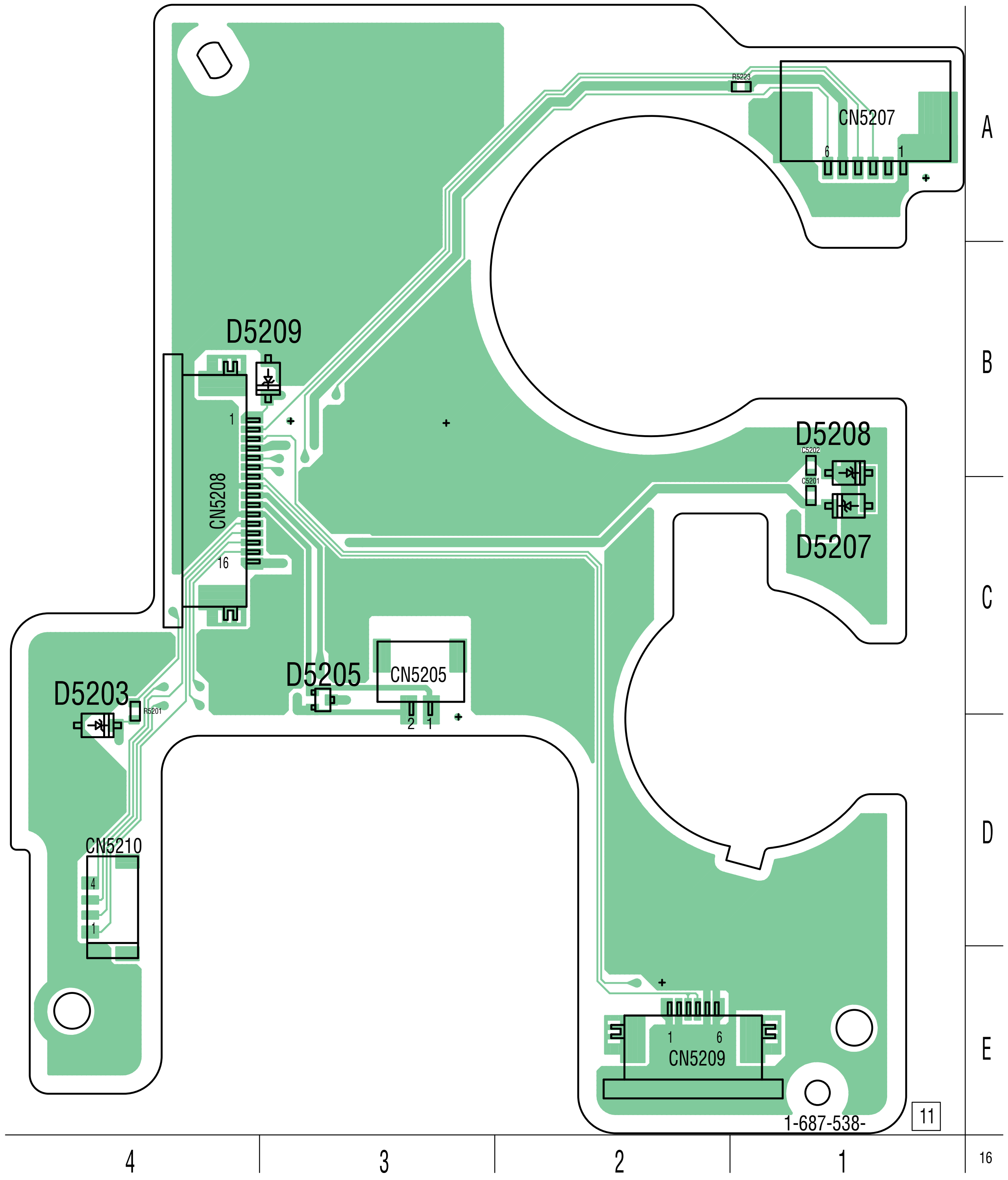
- Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.

CK-129 BOARD(SIDE A)


A
B
C
D
E
S5203
RESET
BT5201
(LITHIUM BATTERY)
S5207
(PANEL XCLOSE/OPEN)
LN5201
LN5202
16
1
2
3
4

CK-129 BOARD(SIDE B)

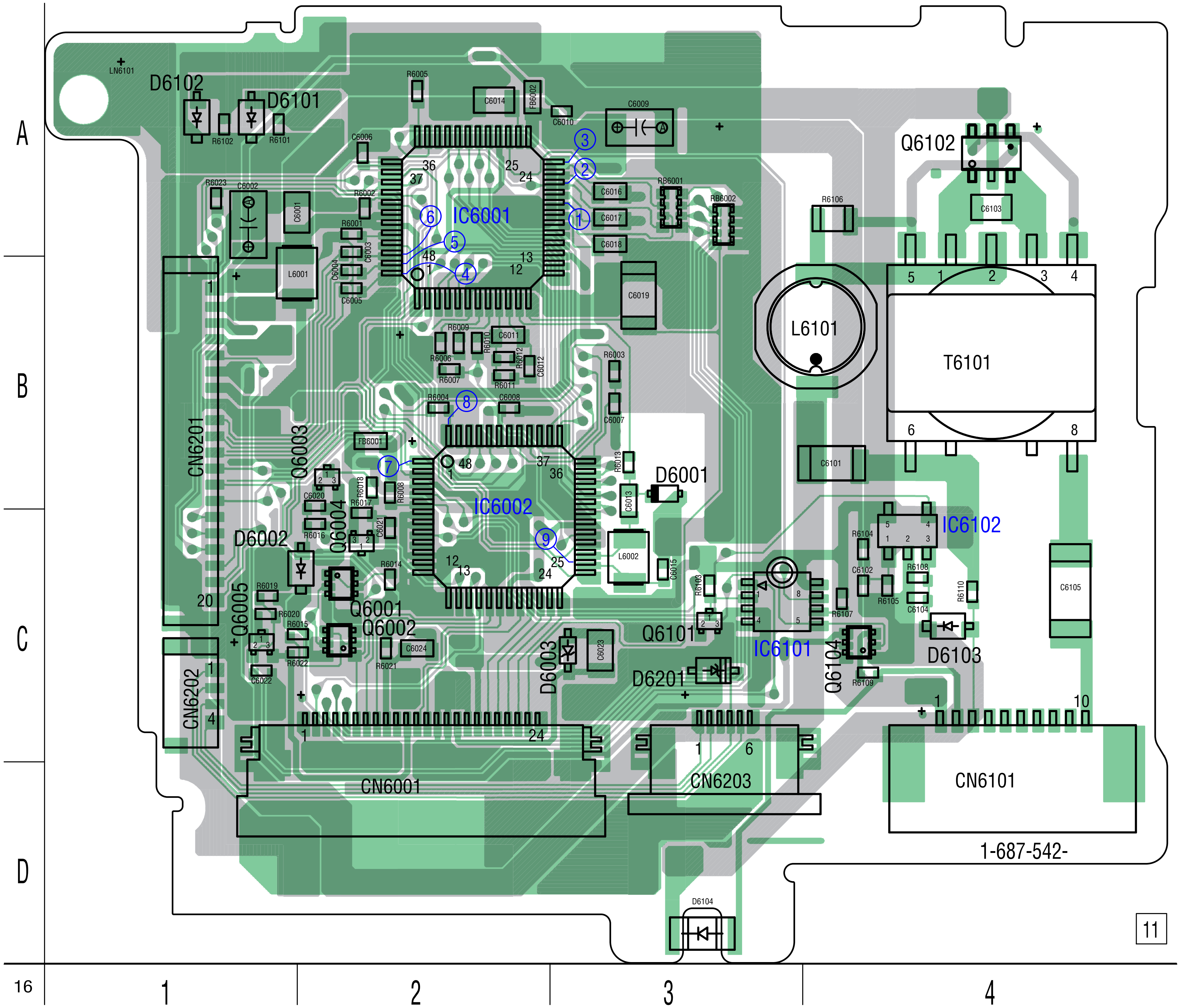

CN5207
6
1
A
B
C
D
E
D5209
CN5208
1
16
D5208
D5207
D5203
D5205
CN5205
2
1
CN5210
4
1
CN5209
1
6
1-687-538-
11
16
4
3
2
1

CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

PD-188 (DRIVER, TG, BACKLIGHT DRIVE) PRINTED WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.
- LF : Uses unleaded solder.

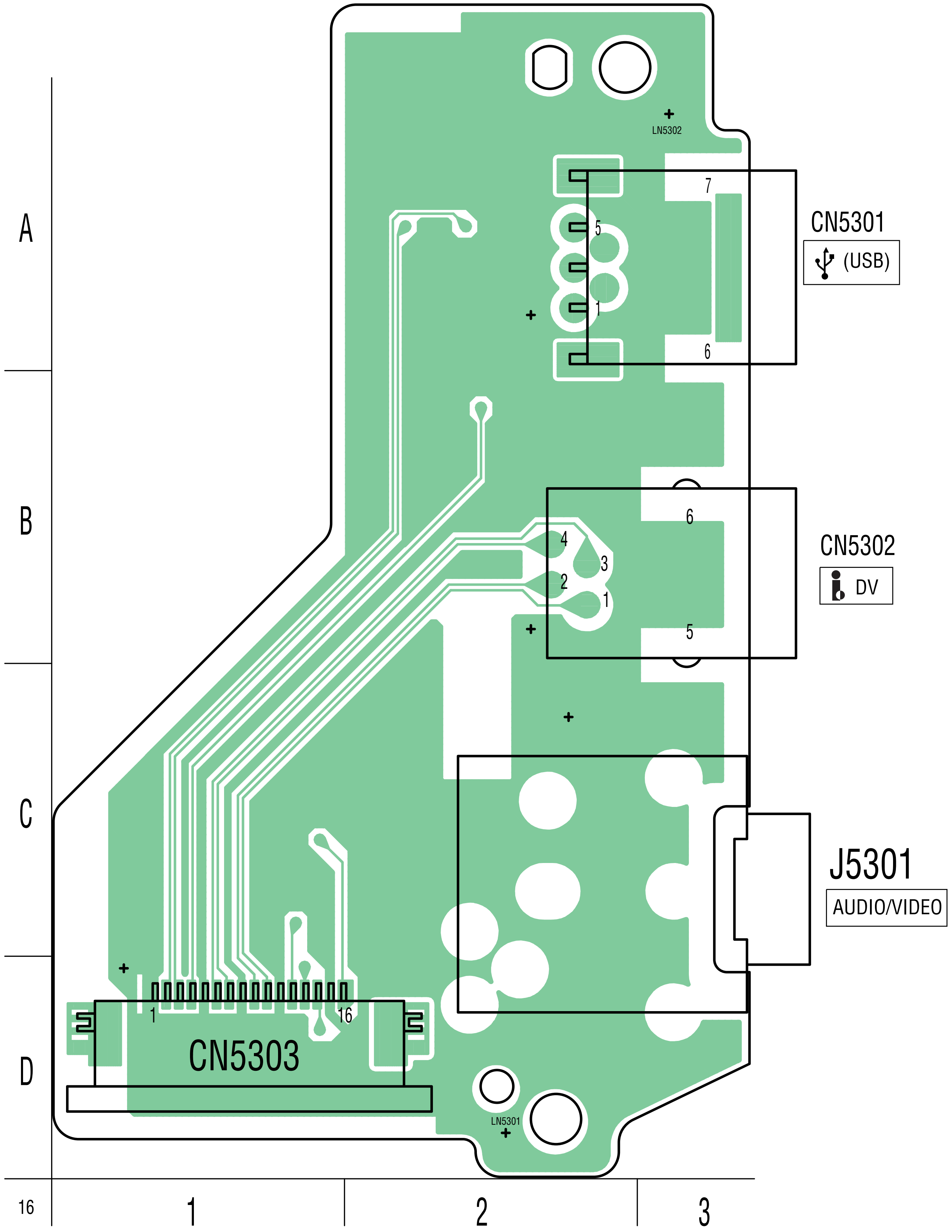
PD-188 BOARD


A
B
C
D
1
2
3
4
16
LN6101
D6102
D6101
R6102
R6101
R6005
C6014
FB6002
C6010
C6009
Q6102
C6006
R6023
C6002
C6001
R6002
R6001
C6003
C6004
C6005
L6001
IC6001
36
25
37
24
48
13
1
12
C6016
C6017
C6018
RB6001
RB6002
R6106
C6103
C6019
L6101
T6101
5
1
2
3
4
6
8
R6009
C6011
R6010
R6012
C6012
R6006
R6007
R6011
R6003
R6004
C6008
C6007
CN6201
Q6003
FB6001
R6018
R6017
R6008
C6020
Q6004
C6021
R6016
IC6002
R6013
C6013
D6001
C6101
D6002
R6014
L6002
C6015
R6104
IC6102
C6102
R6108
R6105
C6104
R6110
C6105
R6019
20
Q6005
R6020
R6015
Q6001
Q6002
C6024
R6021
R6022
C6022
D6003
C6023
Q6101
R6103
IC6101
R6107
Q6104
R6109
D6103
D6201
CN6202
CN6001
CN6203
CN6101
10
6
1-687-542-
D6104
11

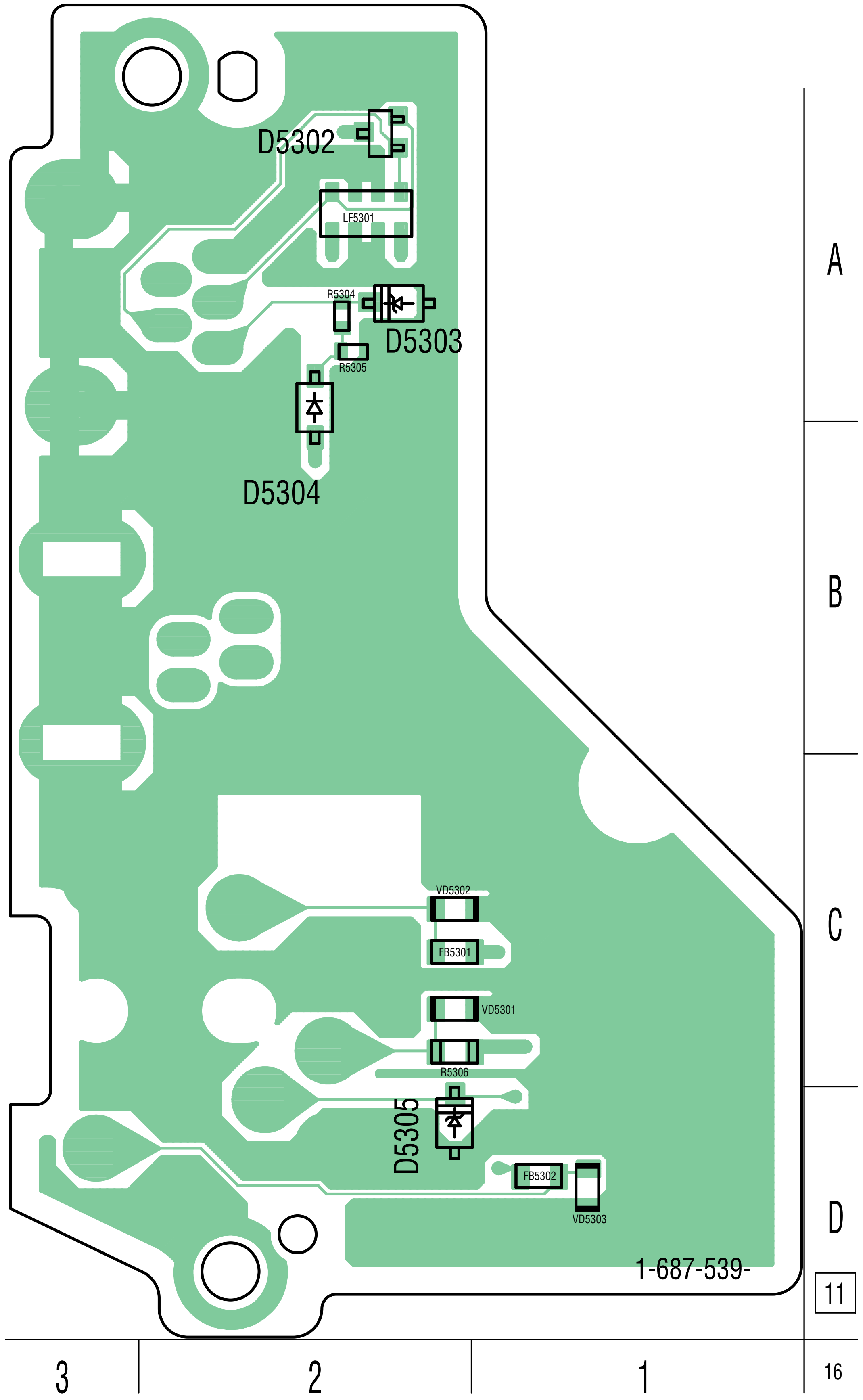
JK-242 (A.V/DV IN/OUT) PRINTED WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.
- LF : Uses unleaded solder.

JK-242 BOARD(SIDE A)


LN5302
7
5
1
6
CN5301
(USB)
6
4
3
2
1
5
CN5302
DV
J5301
AUDIO/VIDEO
1
16
CN5303
LN5301
A
B
C
D
16
1
2
3

JK-242 BOARD(SIDE B)

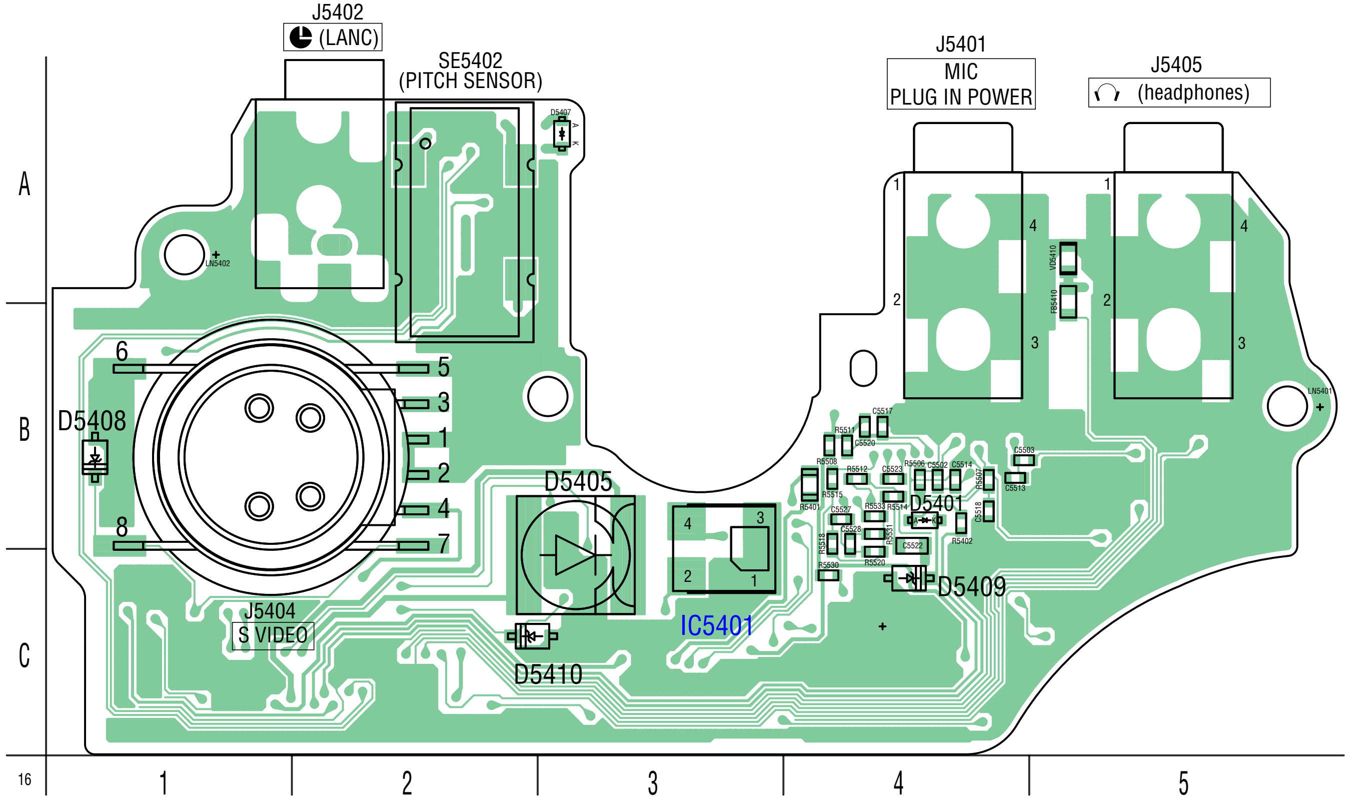

D5302
LF5301
R5304
D5303
R5305
D5304
VD5302
FB5301
VD5301
R5306
D5305
FB5302
VD5303
1-687-539-
11
A
B
C
D
3
2
1
16

COVER
4-2. SCHEMATIC DIAGRAMS
4-3. PRINTED WIRING BOARDS
MOUNTED PARTS LOCATION

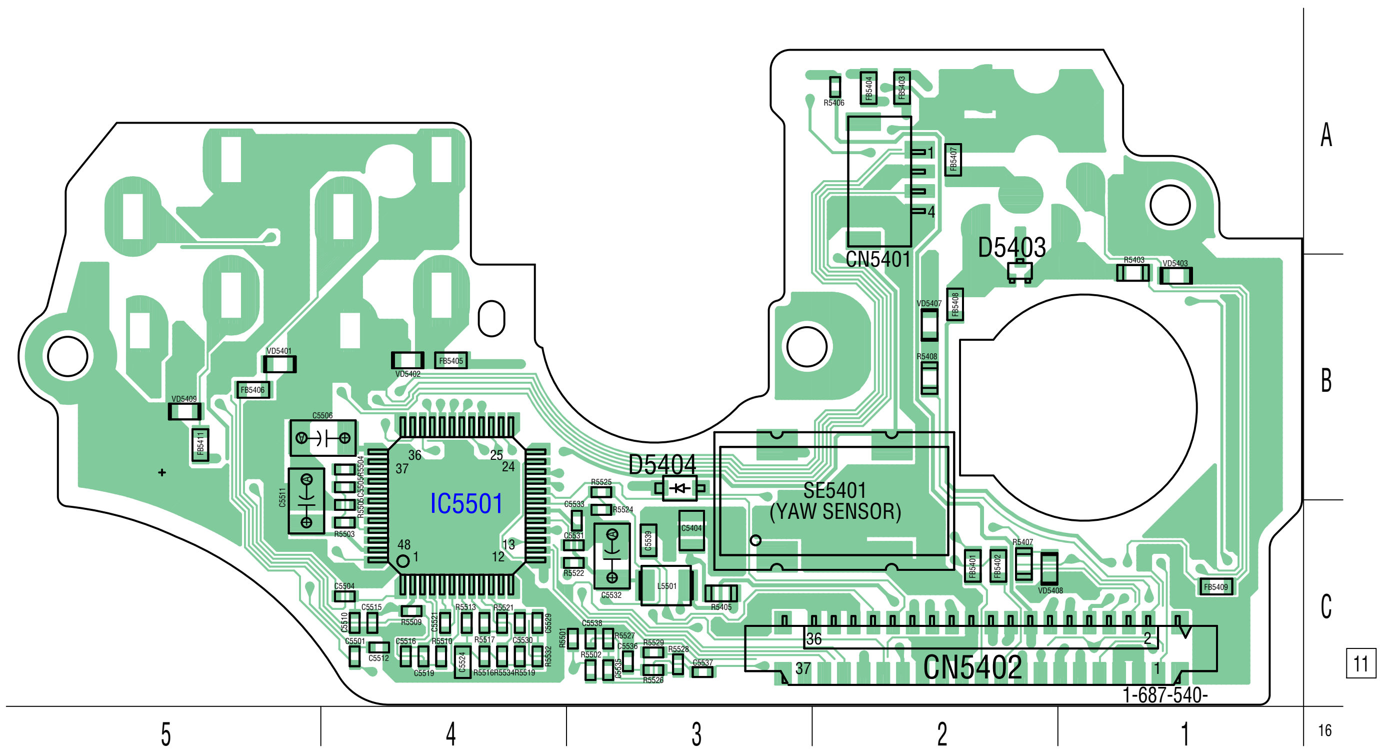
MA-421 (MIC AMP, Y/P SENSOR, V/A IN/OUT) PRINTED WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.
- LF : Uses unleaded solder.

MA-421 BOARD(SIDE A)


J5402
(LANC)
SE5402
(PITCH SENSOR)
J5401
MIC
PLUG IN POWER
J5405
(headphones)
A
B
C
6
5
3
1
2
4
7
8
D5408
D5405
D5401
D5409
D5410
IC5401
J5404
S VIDEO
16
1
2
3
4
5

MA-421 BOARD(SIDE B)

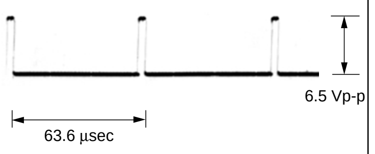

A
B
C
CN5401
D5403
IC5501
D5404
SE5401
(YAW SENSOR)
CN5402
36
37
1
2
1-687-540-
11
16
5
4
3
2
1

Printed wiring board of the VC-312 board are not shown.
Pages from 4-85 to 4-88 are not shown.

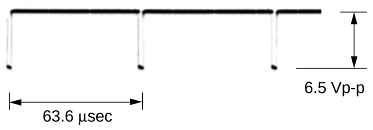
4-4. WAVEFORMS

CD-430 BOARD CAMERA REC

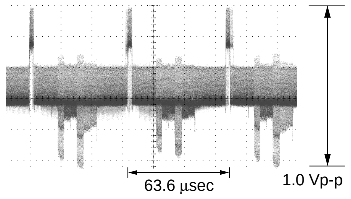
① IC5001 ①,②



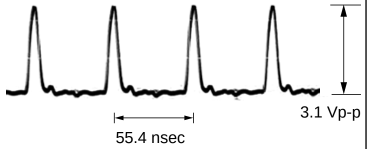
② IC5001 ③,④



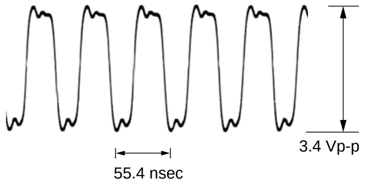
③ IC5001 ⑧



④ IC5001 ⑩

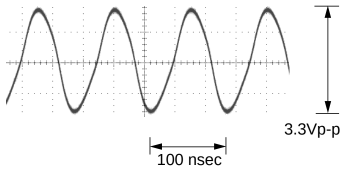


⑤ IC5001 ⑪,⑫

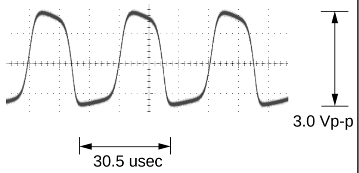


VA-118 BOARD

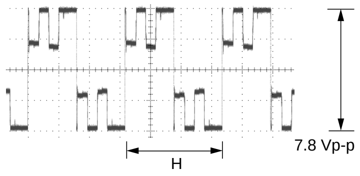
① IC4101 ㉙
REC/PB



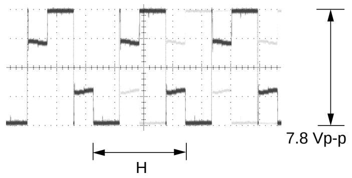
② IC4101 (51)
REC/PB



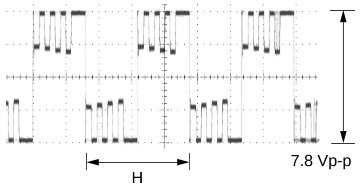
③ IC4201 ⑳
REC/PB (EVF)



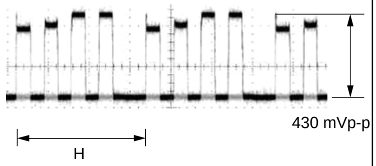
④ IC4201 ㉒
REC/PB (EVF)



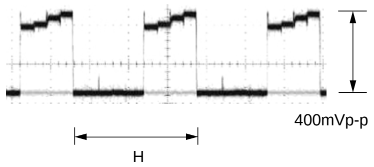
⑤ IC4201 ㉔
REC/PB (EVF)



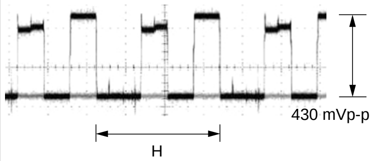
⑥ IC4201 ㊻
REC/PB (EVF)



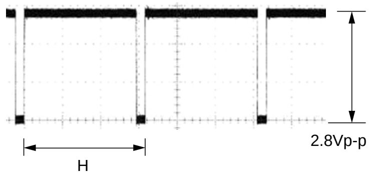
⑦ IC4201 ㊼
REC/PB (EVF)



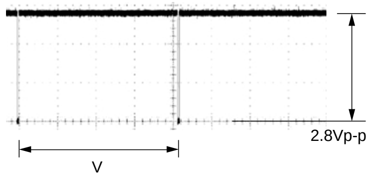
⑧ IC4201 ㊽
REC/PB (EVF)



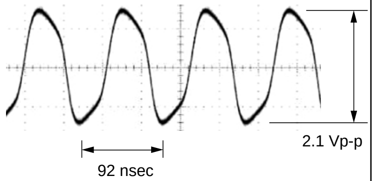
⑨ IC4202 ①
REC/PB



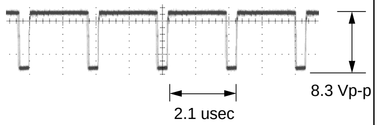
⑩ IC4202 ㊽
REC/PB



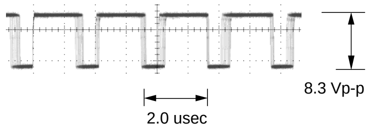
⑪ IC4202 ㉖
REC/PB (EVF)



⑫ IC4501 (61)
REC/PB

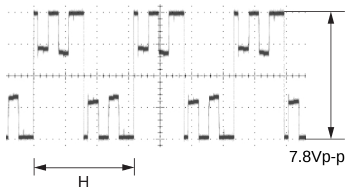


⑬ IC4502 (62)
REC/PB

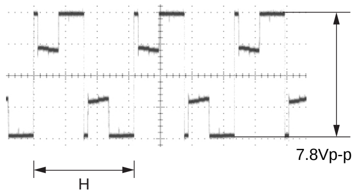


PD-188 BOARD REC/PB

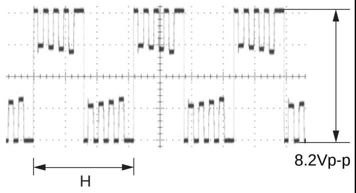
① IC6001 ⑳



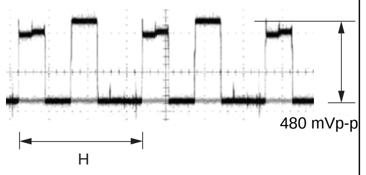
② IC6001 ㉒



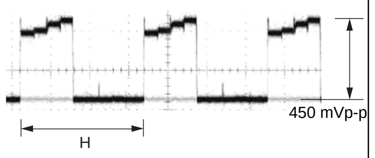
③ IC6001 ㉔



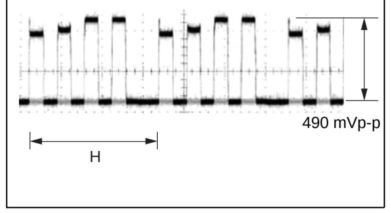
④ IC6001 ㊽



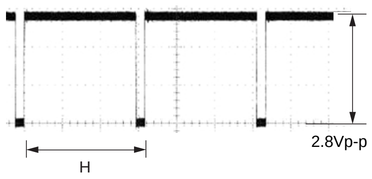
⑤ IC6001 ㊼



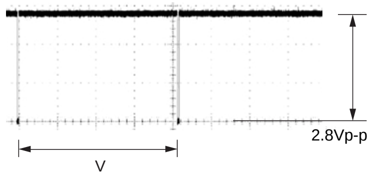
⑥ IC6001 ㊻



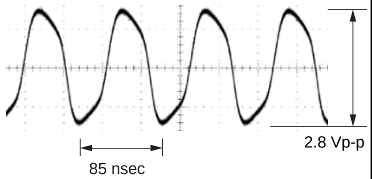
⑦ IC6002 ①



⑧ IC6002 ㊽



⑨ IC6002 ㉖



Waveforms of the VC-312 board are not shown.
Pages 4-91 and 4-92 are not shown.

4-5. MOUNTED PARTS LOCATION

no mark : side A
* mark : side B

CD-430 BOARD

*	C5001	C-1
*	C5002	B-2
*	C5003	C-2
*	C5004	C-2
*	CN5001	A-2
	IC5001	C-2
	L5001	C-2
*	Q5001	B-1
*	R5001	C-2

LB-085 BOARD

*	C5601	B-1
*	C5602	B-1
	CN5601	B-2
	CN5602	A-1
*	D5601	B-3
*	D5602	B-2
*	IC5601	C-1
*	Q5602	C-1
*	R5602	C-3
*	R5603	C-3
*	R5604	C-1
*	R5605	B-1
*	R5606	B-3
*	R5607	C-2

VA-118 BOARD

*	C4001	C-5
	C4002	A-4
*	C4003	A-3
	C4005	C-6
	C4006	C-5
	C4101	B-4
	C4103	B-4
	C4105	B-4
	C4107	B-4
	C4108	A-4
	C4109	A-5
	C4110	B-4
	C4111	B-4
	C4112	B-4
	C4113	A-5
	C4114	A-5
	C4115	A-4
	C4116	B-5
	C4117	B-5
*	C4201	C-3
*	C4202	C-4
*	C4203	C-4
*	C4204	C-4
*	C4205	C-4
*	C4206	B-3
*	C4207	B-3
*	C4208	B-3
*	C4209	B-4
*	C4210	B-3
*	C4211	B-4
*	C4212	A-3
*	C4213	A-4
*	C4214	A-4
*	C4215	A-4
*	C4216	B-4
*	C4217	B-3
*	C4218	B-3
*	C4301	B-6
*	C4302	B-6
*	C4303	A-6
*	C4304	A-6
*	C4305	B-6
*	C4306	B-6
*	C4307	B-6
*	C4308	B-6
*	C4309	B-5
*	C4310	A-5
*	C4311	B-6
*	C4312	A-6
*	C4313	A-6
*	C4314	A-6
	C4501	A-2
	C4502	A-2
	C4503	B-2
	C4504	B-2
	C4505	A-2
	C4506	A-2
	C4507	A-2
	C4508	B-2
	C4509	A-2
	C4510	B-2
	C4511	A-2
	C4512	A-2
	C4513	B-2
	C4514	A-2
	C4515	A-1
	C4516	B-2
	C4517	B-2
	C4518	A-1
	C4519	A-1
	C4520	C-2
	C4521	D-1
	C4522	C-1
*	C4523	C-2
	C4526	C-2
	C4527	C-2
	C4528	C-1
	C4529	C-2
	C4530	D-2
	C4531	D-1
	C4532	C-1
*	C4533	C-2
	C4535	D-2
	C4536	D-2
	C4537	C-2
	C4538	D-1
	C4539	D-1
	C4540	C-2
	C4541	D-3
*	C4542	D-3
	C4543	C-3
*	C4544	D-3
	C4545	B-3
*	C4546	C-3
	C4547	C-3
*	C4548	C-3
	C4549	C-3
*	C4550	C-3
	C4551	B-1
	C4552	D-3
	C4553	C-1
	C4554	D-3
	C4555	C-2
	C4557	C-3
	C4558	D-3
*	C4559	B-2
*	C4560	D-3
	C4561	A-1
	C4562	D-3
*	C4601	B-2
*	C4602	A-2
*	C4603	B-2
*	C4604	C-1
	C4605	C-1
*	C4606	C-1
	C4607	A-3
*	CN4001	A-4
*	CN4002	C-6
*	CN4003	C-5
	CN4004	D-5
*	CN4005	D-4
*	CN4201	A-1
*	CN4602	A-1
*	CN4603	D-1
	D4001	A-4
	D4002	A-4
	D4101	B-6
*	D4102	B-5
	D4103	C-4
*	D4201	B-3
	D4502	A-2
	D4503	A-1
	D4504	C-2
	D4507	C-2
*	D4601	B-1
*	D4602	B-1
	D4603	A-3
	D4604	A-3
*	F4601	B-1
*	F4602	B-1
*	F4603	C-1
*	F4604	B-1
*	F4605	B-1
*	FB4201	B-3
*	FB4202	B-4
	IC4101	B-5
*	IC4201	B-4
*	IC4202	B-3
*	IC4301	B-6
	IC4502	B-2
	IC4504	D-3
*	L4201	C-3
*	L4202	B-3
*	L4301	A-5
*	L4501	C-2
*	L4502	D-2
*	L4503	D-2
*	L4504	C-1
*	L4505	C-2
*	L4506	D-2
*	L4507	D-2
	L4508	D-1
	L4509	D-1
	L4510	C-2
*	L4511	D-3
*	L4512	D-3
*	L4513	C-3
*	L4514	C-3
*	L4515	C-3
	L4516	C-3
	L4517	C-3
	L4518	C-3
	L4519	C-3
*	L4520	C-2
*	L4521	D-3
*	L4601	C-1
*	LF4601	A-2
*	LF4602	A-2
	Q4001	C-6
	Q4002	C-6
	Q4003	C-5
	Q4004	C-5
	Q4005	C-5
	Q4101	B-6
	Q4504	C-1
	Q4505	D-1
	Q4506	C-1
	Q4507	C-1
	Q4508	C-2
	Q4509	D-2
	Q4510	C-2
	Q4513	C-2
	Q4514	D-2
	Q4515	C-1
	Q4516	D-3
	Q4517	C-2
	Q4518	D-2
	Q4519	C-2
	Q4520	C-1
	Q4521	C-1
	Q4524	D-3
	Q4525	D-3
	Q4526	A-1
	Q4527	A-1
*	Q4601	B-2
*	Q4602	B-1
*	Q4603	B-2
*	Q4604	B-2
	Q4608	A-3
	Q4610	A-3
*	R4002	C-5
	R4004	D-6
	R4005	D-6
	R4006	C-6
	R4007	C-6
	R4008	C-6
	R4009	C-6
	R4010	D-6
	R4103	B-4
	R4104	B-4
	R4105	B-4
	R4106	B-4
	R4107	C-4
	R4108	C-4
	R4109	A-4
	R4110	A-4
	R4111	A-5
	R4112	A-5
	R4113	C-4
	R4114	A-5
	R4115	A-5
	R4116	A-4
	R4117	B-5
	R4118	B-5
	R4119	B-6
	R4120	B-6
	R4121	B-5
	R4122	B-4
	R4123	B-4
	R4124	B-4
*	R4201	C-4
*	R4202	C-4
*	R4203	C-4
*	R4204	C-5
*	R4205	C-4
*	R4206	B-3
*	R4207	B-3
*	R4208	B-3
*	R4209	B-3
*	R4210	B-3
*	R4211	B-3
*	R4212	B-3
*	R4213	B-3
*	R4214	B-3
*	R4215	B-3
*	R4301	A-6
*	R4302	A-6
*	R4303	A-6
*	R4304	A-6
*	R4305	A-6
	R4501	A-2
	R4502	B-2
	R4503	A-3
	R4504	B-3
	R4505	B-2
	R4506	B-3
	R4507	B-2
	R4508	B-3
	R4509	B-2
	R4510	B-2
	R4511	B-2
	R4512	B-2
*	R4513	B-2
	R4514	B-2
	R4515	B-2
	R4516	B-2
	R4517	B-1
	R4518	B-2
	R4519	B-2
	R4520	B-2
	R4521	B-1
	R4522	B-1
	R4523	A-2
	R4524	B-1
	R4525	B-1
*	R4526	B-2
	R4537	C-2
	R4538	B-2
	R4539	B-1
	R4540	D-2
	R4541	C-2
	R4542	C-2
	R4543	C-1
	R4545	D-3
	R4546	C-1
	R4547	B-1
	R4549	D-3
	R4550	D-3
	R4551	D-3
	R4552	C-2
	R4553	C-1
	R4554	C-1
	R4555	C-1
	R4556	C-1
	R4557	B-1
	R4561	D-3
	R4562	D-3
	R4563	D-3
	R4564	D-3
	R4567	A-2
*	R4601	B-1
*	R4604	B-2
*	R4605	B-2
*	R4606	B-2
*	R4607	B-2
*	R4608	B-2
*	R4609	B-2
	R4611	A-3
	R4614	A-3
	R4615	A-3
	RB4101	B-4
	RB4104	B-4
	RB4105	B-4
	RB4106	C-4
	RB4107	C-5
	RB4108	A-4
	RB4109	B-6
*	RB4201	B-4
*	RB4202	B-3
*	RB4301	B-6
	X4101	A-5
	X4102	B-6

COVER

4-3. PRINTED WIRING BOARDS

no mark : side A
* mark : side B

CK-129 BOARD

* BT5201	C-1
* C5201	C-1
* C5202	B-1
* CN5205	C-3
* CN5207	A-1
* CN5208	C-4
* CN5209	E-2
* CN5210	D-4a
* D5203	D-4
* D5205	C-3
* D5207	C-1
* D5208	B-1
* D5209	B-3
* R5201	D-4
* R5223	A-1
S5203	D-4
S5207	E-2a

PD-188 BOARD

C6001	A-2
C6002	A-1
C6003	A-2
C6004	B-2
C6005	B-2
C6006	A-2
C6007	B-3
C6008	B-2
C6009	A-3
C6010	A-3
C6011	B-2
C6012	B-2
C6013	B-3
C6014	A-2
C6015	C-3
C6016	A-3
C6017	A-3
C6018	A-3
C6019	B-3
C6020	B-2
C6021	C-2
C6022	C-1
C6023	C-3
C6024	C-2
C6101	B-4
C6102	C-4
C6103	A-4
C6104	C-4
C6105	C-4
CN6001	D-2
CN6101	D-4
CN6201	B-1
CN6202	C-1
CN6203	D-3
D6001	B-3
D6002	C-2
D6003	C-3
D6101	A-1
D6102	A-1
D6103	C-4
D6104	D-3
D6201	C-3
FB6001	B-2
FB6002	A-2
IC6001	A-2
IC6002	C-2
IC6101	C-3
IC6102	C-4
L6001	B-2
L6002	C-3
L6101	B-4
Q6001	C-2
Q6002	C-2
Q6003	B-2
Q6004	C-2
Q6005	C-1
Q6101	C-3
Q6102	A-4
Q6103	A-4
Q6104	C-4
R6001	A-2
R6002	A-2
R6003	B-3
R6004	B-2
R6005	A-2
R6006	B-2
R6007	B-2
R6008	B-2
R6009	B-2
R6010	B-2
R6011	B-2
R6012	B-2
R6013	B-3
R6014	C-2
R6015	C-2
R6016	C-2
R6017	C-2
R6018	B-2
R6019	C-1
R6020	C-1
R6021	C-2
R6022	C-2
R6023	A-1
R6101	A-1
R6102	A-1
R6103	C-3
R6104	C-4
R6105	C-4
R6106	A-4
R6107	C-4
R6108	C-4
R6109	C-4
R6110	C-4
RB6001	A-3
RB6002	A-3
T6101	B-4

JK-242 BOARD

CN5301	A-3
CN5302	B-3
CN5303	D-1
* D5302	A-2
* D5303	A-2
* D5304	B-2
* D5305	D-1
* FB5301	C-1
* FB5302	D-1
J5301	C-2
* LF5301	A-2
* R5304	A-2
* R5305	A-2
* R5306	C-1
* VD5301	C-1
* VD5302	C-1
* VD5303	D-1

MA-421 BOARD

C5402	B-4
* C5404	C-3
* C5501	C-4
C5502	B-4
C5503	B-4
* C5504	C-4
* C5505	B-4
* C5506	B-4
* C5510	C-4
* C5511	B-5
* C5512	C-4
C5513	B-4
C5514	B-4
* C5515	C-4
* C5516	C-4
C5517	B-4
C5518	B-4
* C5519	C-4
C5520	B-4
* C5521	C-4
C5522	B-4
C5523	B-4
* C5524	C-4
C5527	B-4
C5528	B-4
* C5529	C-4
* C5530	C-4
* C5531	C-3
* C5532	C-3
* C5533	B-3
* C5535	C-3
* C5536	C-3
* C5537	C-3
* C5538	C-3
* C5539	C-3
* CN5401	A-2
* CN5402	C-2
D5401	B-4
* D5403	B-2
* D5404	B-3
D5405	C-3
D5407	A-3
D5408	B-1
D5409	C-4
* FB5401	C-2
* FB5402	C-2
* FB5403	A-2
* FB5404	A-2
* FB5405	B-4
* FB5406	B-5
* FB5407	A-2
* FB5408	B-2
* FB5409	C-1
FB5410	A-5
* FB5411	B-5
IC5401	C-3
* IC5501	C-4
J5401	A-4
J5402	A-2
J5404	B-1
J5405	A-5
* L5501	C-3
R5401	B-4
R5402	B-4
* R5403	B-1
* R5405	C-3a
* R5406	A-2
* R5407	C-2a
* R5408	B-2
* R5501	C-3
* R5502	C-3
* R5503	C-4
* R5504	B-4
* R5505	C-4
R5506	B-4
R5507	B-4
R5508	B-4
* R5509	C-4
* R5510	C-4
R5511	B-4
R5512	B-4
* R5513	C-4
R5514	B-4
R5515	B-4
* R5516	C-4
* R5517	C-4
R5518	B-4
* R5519	C-4
R5520	C-4
* R5521	C-4
* R5522	C-3
* R5524	C-3
* R5525	B-3
* R5526	C-3
* R5527	C-3
* R5528	C-3
* R5529	C-3
R5530	C-4
R5531	B-4
* R5532	C-4
R5533	B-4
* R5534	C-4
* SE5401	C-2
SE5402	A-2
* VD5401	B-5
* VD5402	B-4
* VD5403	B-1
* VD5407	B-2
* VD5408	C-2
* VD5409	B-5
VD5410	A-5

Mounted parts location of the VC-312 board is not shown.
Page 4-95 is not shown.

COVER

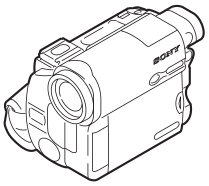
NOTE

5. REPAIR PARTS LIST

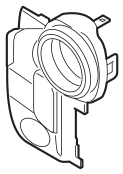
NOTE: Characters A to Z of the electrical parts list indicate location of exploded views in which the desired part is shown.

Link

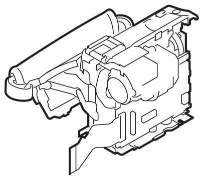
EXPLODED VIEWS



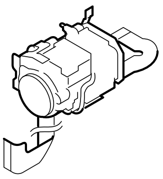
OVERALL SECTION



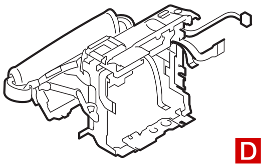
F PANEL SECTION



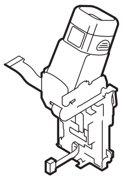
MAIN CHASSIS SECTION



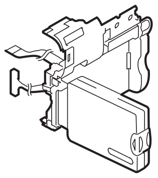
LENS SECTION



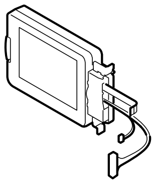
CABINET L SECTION



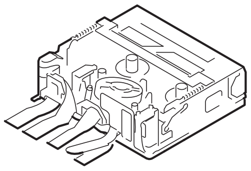
BT PANEL/EVF SECTION



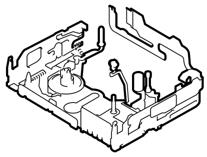
CABINET R SECTION



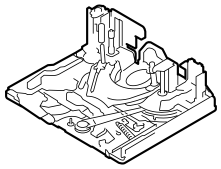
LCD SECTION



OVERALL (MECHANISM DECK-Z100)



LS CHASSIS BLOCK ASSEMBLY



MECHANICAL CHASSIS BLOCK ASSEMBLY

Link

ELECTRICAL PARTS LIST

ACCESSORIES

CD-430 BOARD	C	JK-242 BOARD	D	PD-188 BOARD	G
CK-129 BOARD	F	LB-085 BOARD	E	VA-118 BOARD	B
FP-626 FLEXIBLE BOARD	G	MA-421 BOARD	A		

COVER

5. REPAIR PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- CAPACITORS:
  uF: μF
- COILS
  uH: μH
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA... , uPA... , μPA... ,
  uPB... , μPB... , uPC... , μPC... ,
  uPD..., μPD...
- Abbreviation
  CND : Canadian model
  AUS : Australian model
  EE : East European model
  NE : North European model
  JE : Tourist model
  CH : Chinese model
  KR : Korea model
  HK : Hong Kong model
  BR : Brazilian model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

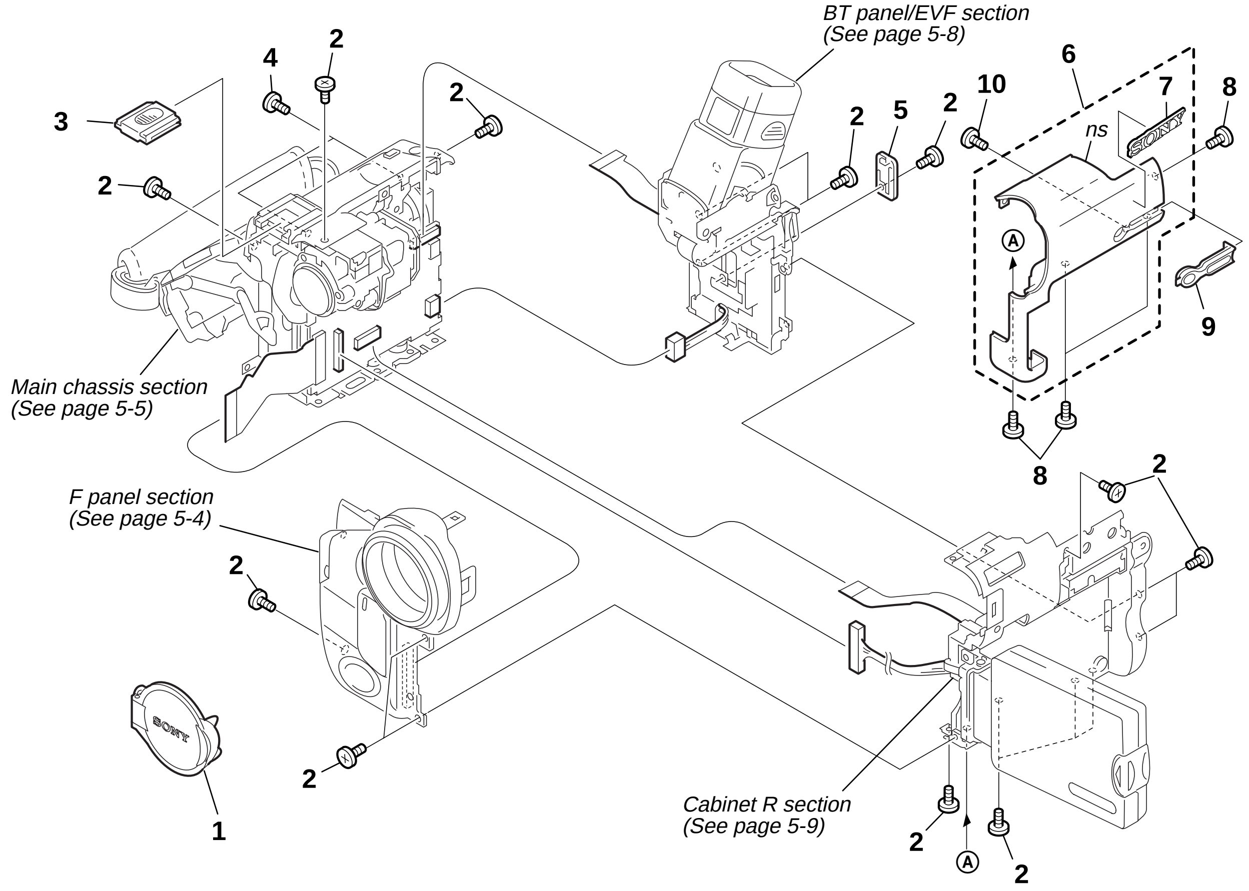
COVER

5. REPAIR PARTS LIST

5-1. EXPLODED VIEWS

5-1-1. OVERALL SECTION

ns : not supplied


BT panel/EVF section
(See page 5-8)
Main chassis section
(See page 5-5)
F panel section
(See page 5-4)
Cabinet R section
(See page 5-9)
ns
A
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6
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8
9
10

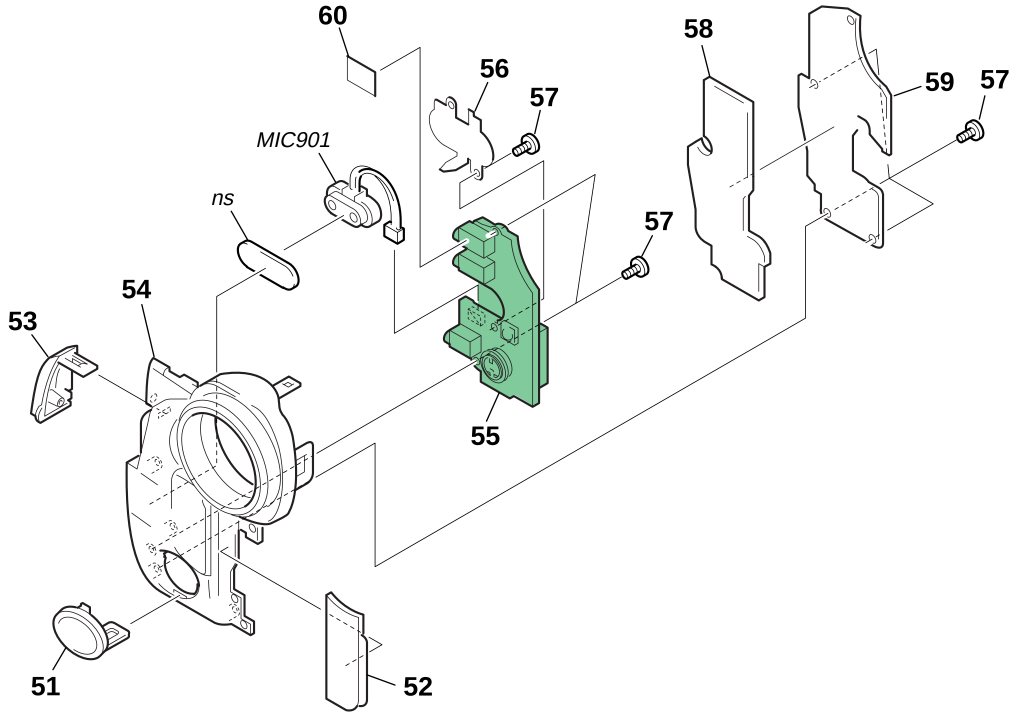
Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	X-3953-088-1	CAP ASSY, LENS		6	X-3953-228-1	COVER (39E) ASSY, CABINET (R)	
2	3-989-735-81	SCREW (M1.7), LOCK ACE, P2		* 7	4-942-636-01	EMBLEM (NO.3.5), SONY	
3	3-080-571-01	COVER, SHOE		8	3-989-735-51	SCREW (M1.7), LOCK ACE, P2	
4	3-056-030-81	SCREW (M1.7), LOCK ACE, P2		9	3-080-421-01	BUTTON, CF	
5	3-080-570-01	LID, CPC		10	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	

COVER

5. REPAIR PARTS LIST

5-1-2. F PANEL SECTION

ns : not supplied



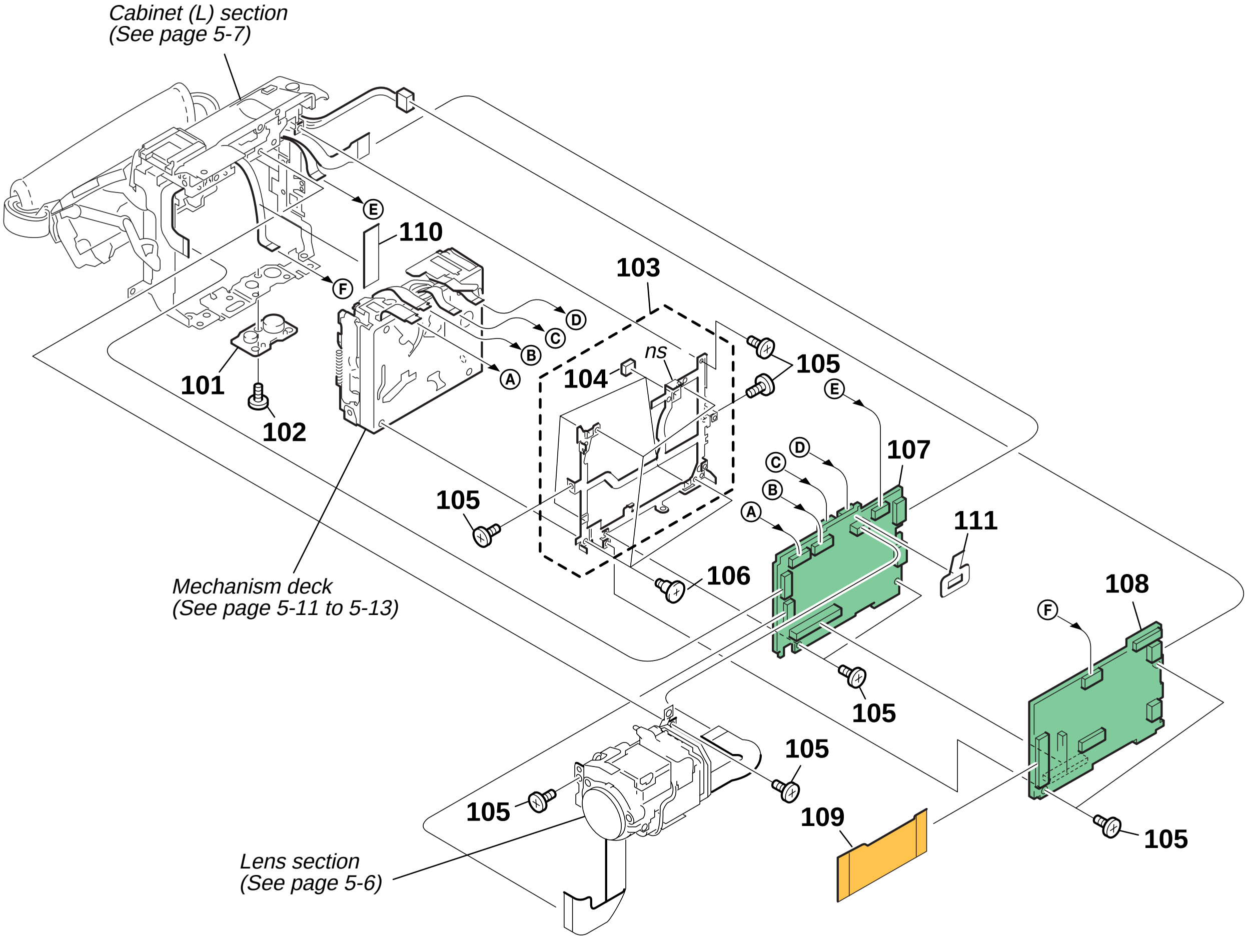
Ref. No.	Part No.	Description	Remarks
51	3-080-516-01	COVER, S TERMINAL	
52	3-080-402-01	PLATE, NAME (TRV22)	
52	3-080-402-41	PLATE, NAME (TRV22E)	
53	3-080-573-01	COVER (F), JACK	
54	X-3953-213-1	PANEL (395) ASSY, F	
55	A-7013-530-A	MA-421 (MSARI) BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remarks
56	3-080-517-01	RETAINER, MICROPHONE	
57	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
58	3-080-519-01	CUSHION, MA COVER	
59	3-080-514-01	COVER, MA	
60	CAUTION	SHEET, HP	
MIC901	1-542-513-11	MICROPHONE	

CAUTION :
For the parts of 60 : SHEET, HP (3-083-974-01) cut SHEET (MD), CN (3-075-957-02) into the desired length and use it.

5-1-3. MAIN CHASSIS SECTION

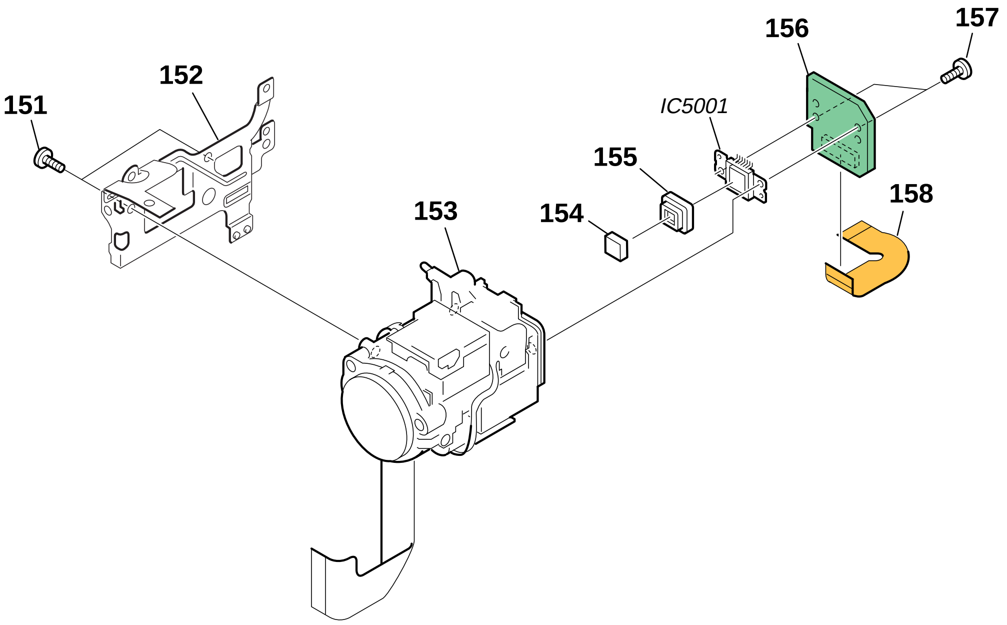
ns : not supplied


Cabinet (L) section
(See page 5-7)
E
110
F
103
D
C
B
A
ns
104
105
101
102
E
107
D
C
B
A
105
111
106
Mechanism deck
(See page 5-11 to 5-13)
108
F
105
105
105
109
105
Lens section
(See page 5-6)

Ref. No.	Part No.	Description	Remarks
101	3-080-569-01	SCREW	
102	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
103	X-3953-112-1	FRAME ASSY, MD	
104	3-975-921-01	SHEET, VIBRATION PROOF	
105	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
106	3-062-214-01	SCREW (M1.4X1.5)	
107	A-7078-607-A	VC-312 BOARD, COMPLETE (SERVICE)	
108	A-7013-554-A	VA-118 (MDF) BOARD, COMPLETE	
109	1-687-546-11	FP-621 FLEXIBLE BOARD	
110	3-941-343-21	TAPE (A)	
111	3-081-787-01	SHEET, RF	

5. REPAIR PARTS LIST

5-1-4. LENS SECTION



Be sure to read "Precautions upon replacing CCD imager" on page 4-9 when changing the CCD imager.

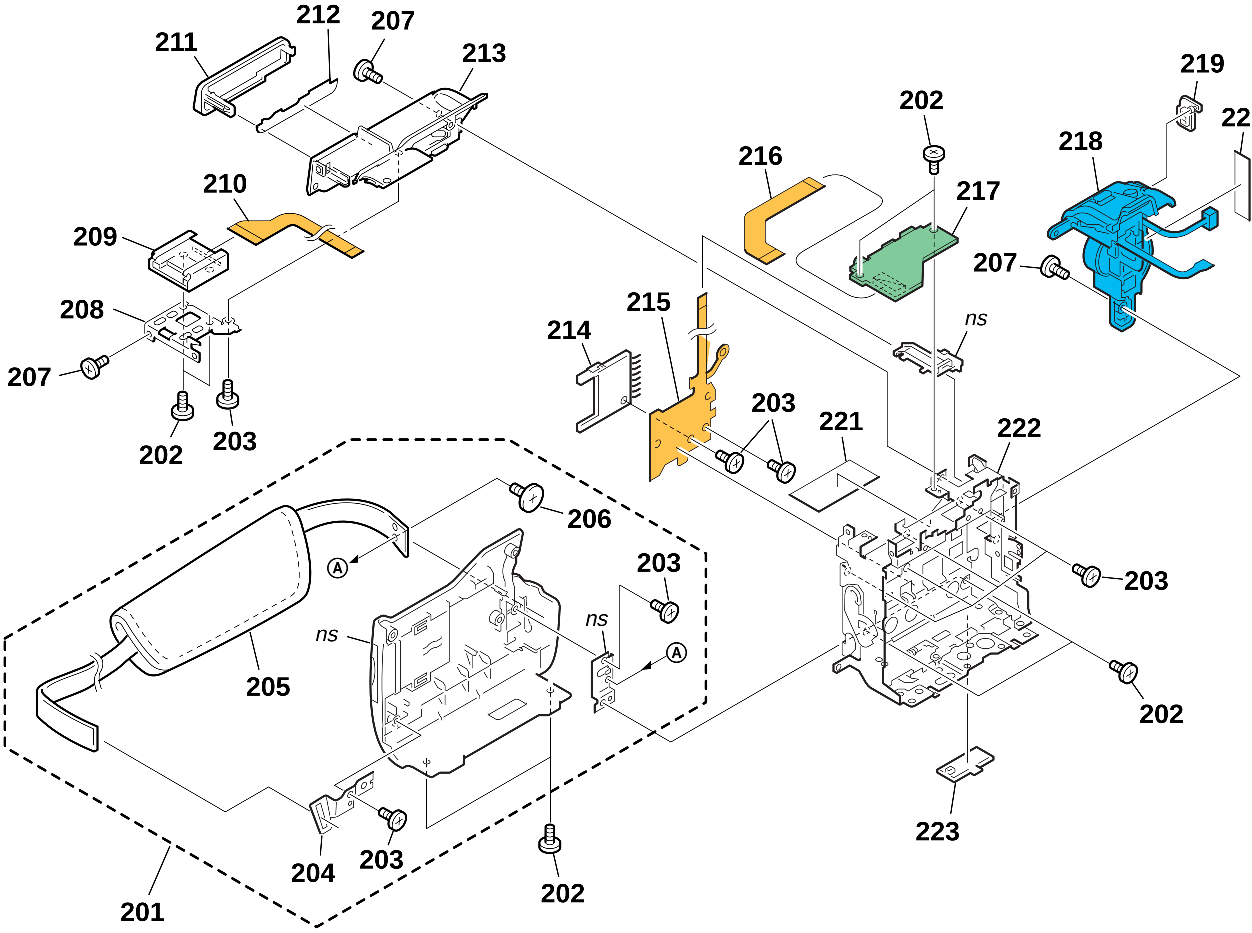
Ref. No.	Part No.	Description	Remarks
151	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
152	X-3953-110-1	FRAME (39) ASSY, LENS	
153	8-848-767-01	DEVICE, LENS LSV-650E	
154	1-758-155-21	FILTER BLOCK, OPTICAL	
155	3-053-973-01	RUBBER (W), SEAL	
156	A-7013-526-A	CD-430 BOARD, COMPLETE	
157	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
158	1-687-547-11	FP-623 FLEXIBLE BOARD	
IC5001	A-7031-244-A	CCD BLOCK ASSY (CCD IMAGER) (TRV22)	
IC5001	A-7031-276-A	CCD BLOCK ASSY (CCD IMAGER) (TRV22E)	

COVER

5. REPAIR PARTS LIST

5-1-5. CABINET L SECTION

ns : not supplied


211
212
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205
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223
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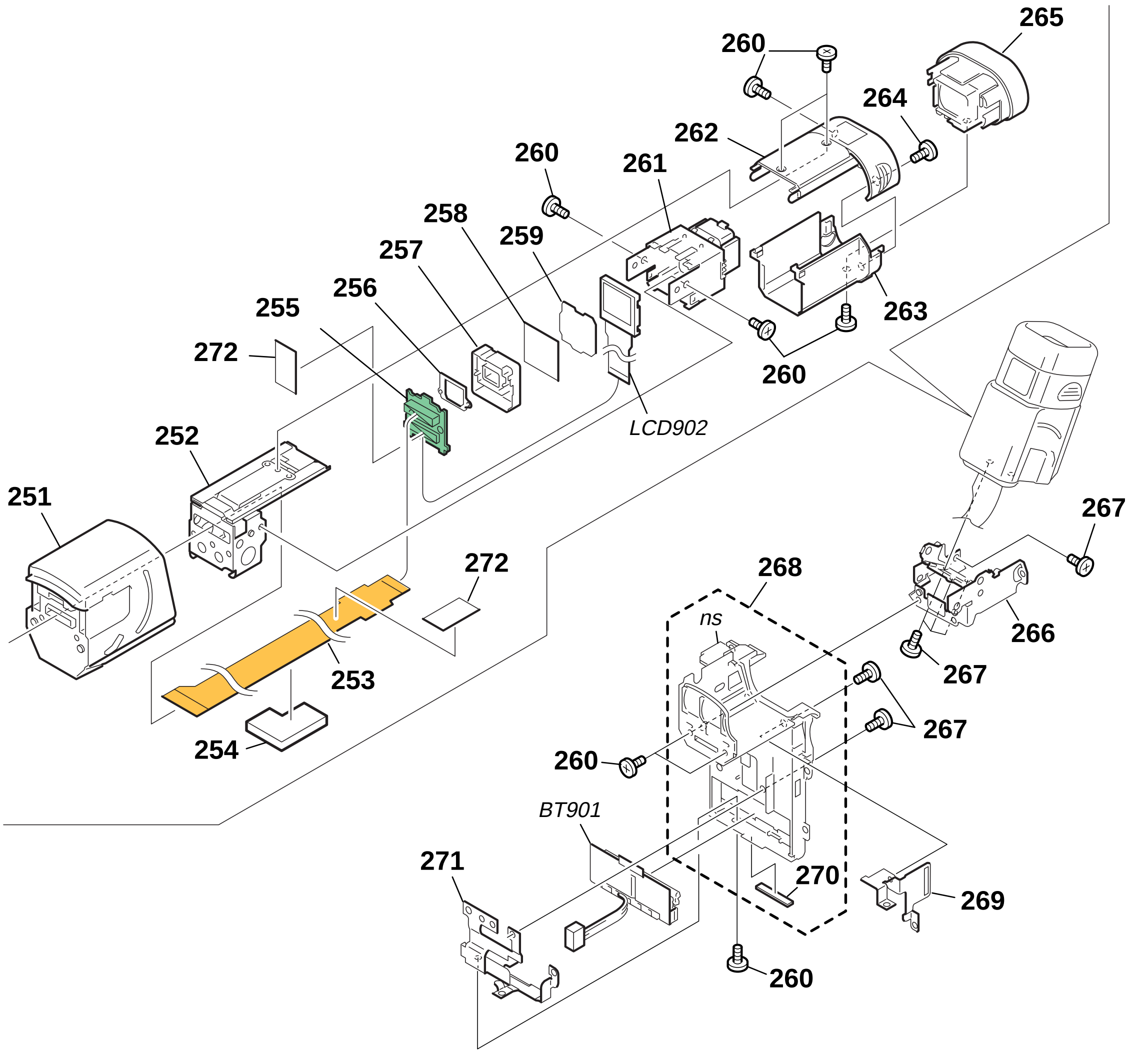
202
201

Ref. No.	Part No.	Description	Remarks
201	X-3953-219-2	CABINET (G) ASSY (40E)	
202	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
203	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
204	3-080-468-01	SHEET METAL (FRONT), GRIP BELT	
205	3-080-467-01	BELT, GRIP	
206	3-073-686-11	SCREW (M2X2.5)	
207	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
208	3-080-473-01	FRAME, SHOE	
209	1-793-996-11	CONNECTOR, EXTERNAL	
210	1-687-545-11	FP-620 FLEXIBLE BOARD	
211	3-080-572-01	COVER (L), JACK	
212	3-080-576-11	SHEET (L), JACK	
213	X-3953-217-1	CABINET (L) ASSY (39E)	
214	1-815-795-11	CONNECTOR, MEMORY STCK	
215	1-687-551-11	FP-630 FLEXIBLE BOARD	
216	1-687-549-11	FP-625 FLEXIBLE BOARD	
217	A-7013-551-A	JK-242 BOARD, COMPLETE	
218	1-477-740-21	SWITCH BLOCK, CONTROL (FK-CX4000)	
219	3-082-335-01	COVER, JACK DC-IN (SERVICE)	
220	3-076-631-01	RETAINER, FK FLEXIBLE	
221	3-081-434-01	SHEET Z	
222	X-3953-096-1	FRAME ASSY, CS	
223	3-080-471-01	KNOB, EJECT	

5-1-6. BT PANEL/EVF SECTION

ns : not supplied


265
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264
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261
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257
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263
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LCD902
252
251
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272
268
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267
253
267
254
260
BT901
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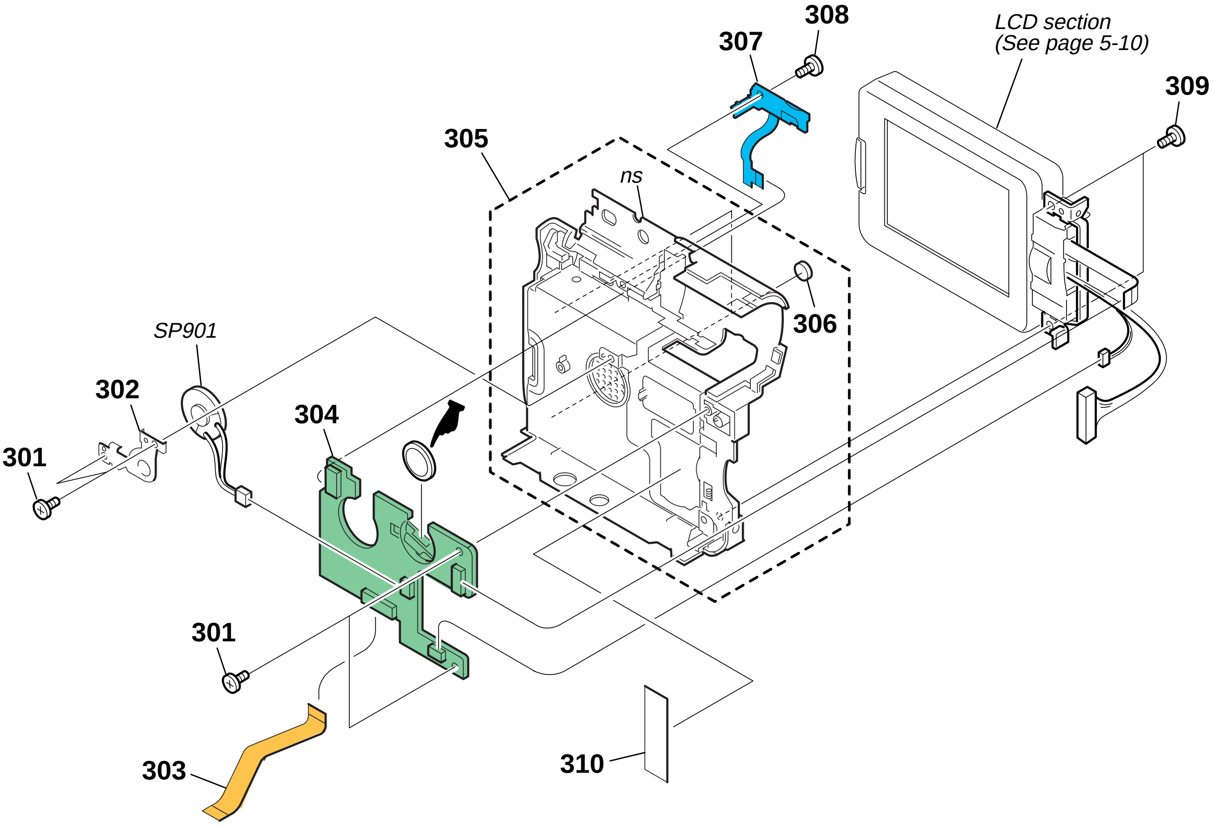
260

Ref. No.	Part No.	Description	Remarks
251	3-080-420-01	CABINET, VF TILT	
252	X-3953-118-1	SLIDE ASSY, VF	
253	1-687-544-21	FP-619 FLEXIBLE BOARD	
254	3-081-694-02	RETAINER, EVF FLEXIBLE	
255	A-7013-525-A	LB-085 (C) BOARD, COMPLETE	
256	3-080-615-01	CUSHION (LB) (40)	
257	3-080-618-01	GUIDE (40), LAMP	
258	3-080-613-01	ILLUMINATOR (40)	
259	3-080-614-01	SHEET (40), PRISM	
260	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
261	X-3953-119-1	CABINET ASSY, LCD	
262	X-3953-117-1	CABINET (UPPER) ASSY, VF SLIDE	
263	3-080-617-01	CABINET (LOWER), VF SLIDE	
264	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
265	X-3953-115-1	EYE CUP (40) ASSY	
266	X-3953-116-1	HINGE ASSY, VF	
267	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
268	X-3953-113-1	PANEL ASSY, BATTERY (TRV22:US,CND,E,HK,JE,KR/TRV22E)	
268	X-3953-297-1	PANEL ASSY, BATTERY (TRV22:BR)	
269	X-3953-349-2	SHEET METAL (UPPER) ASSY STRAP	
270	3-080-543-01	SHEET, FOOT	
271	X-3953-114-1	SHEET METAL (LOWER) ASSY,STRAP	
272	3-083-290-01	SHEET (VF)	
BT901	1-694-796-11	TERMINAL BOARD, BATTERY	
LCD902	8-753-028-47	LCX032AN-5	

5. REPAIR PARTS LIST

5-1-7. CABINET R SECTION

ns : not supplied



☛ : BT5201 (Lithium battery) CK-129 board on the mount position. (See page 4-77)

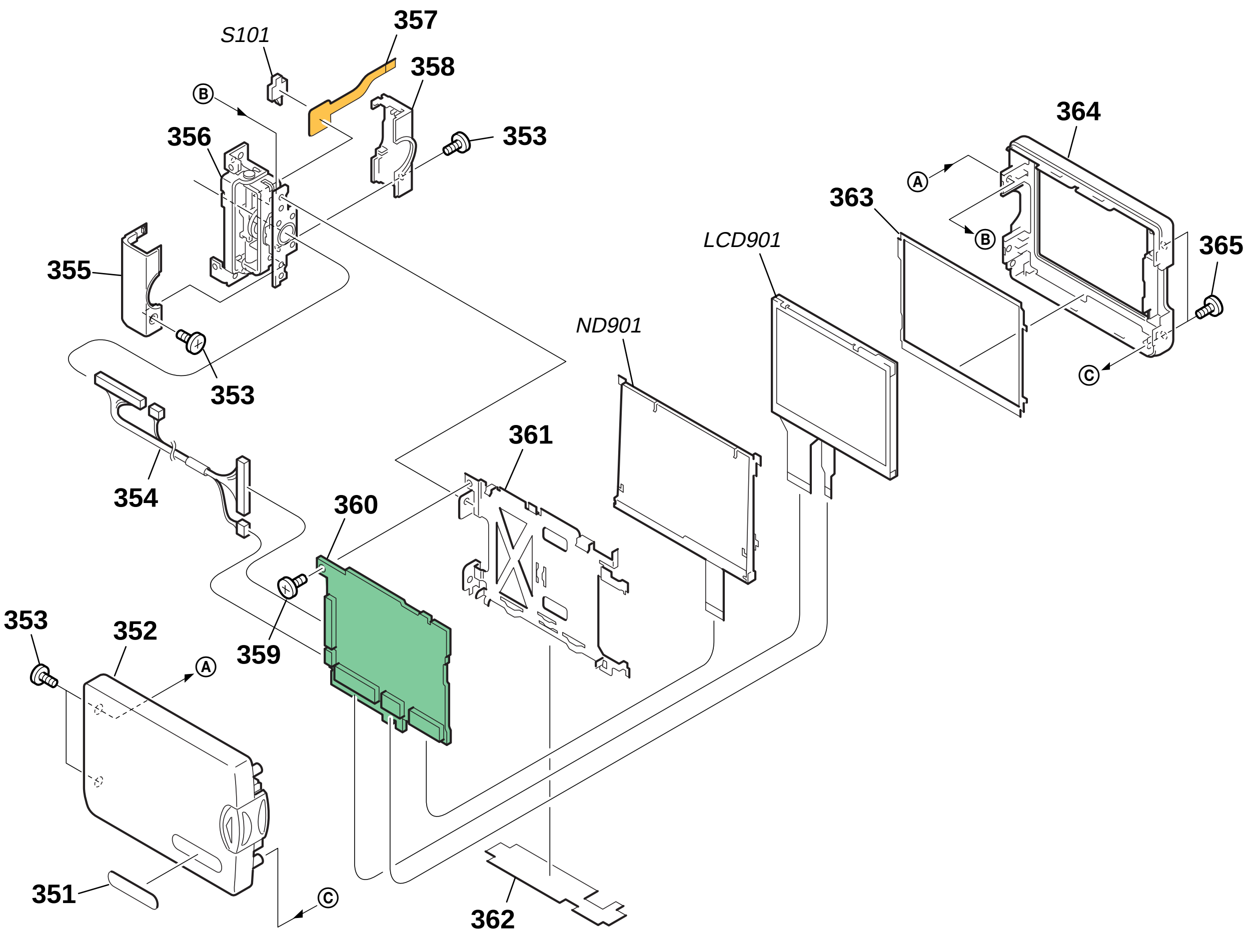
CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

Ref. No.	Part No.	Description	Remarks
301	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
302	X-3953-097-1	RETAINER ASSY, SPEAKER	
303	1-687-543-11	FP-618 FLEXIBLE BOARD	
304	A-7013-534-A	CK-129 BOARD, COMPLETE	
305	X-3953-095-2	CABINET (R) ASSY	
306	3-959-978-02	CUSHION, PANEL	
307	1-477-741-11	SWITCH BLOCK, CONTROL (CF-CX4000)	
308	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
309	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
310	3-941-343-21	TAPE (A)	
SP901	1-825-260-21	LOUD SPEAKER (1.6CM)	

5. REPAIR PARTS LIST

5-1-8. LCD SECTION

ns : not supplied



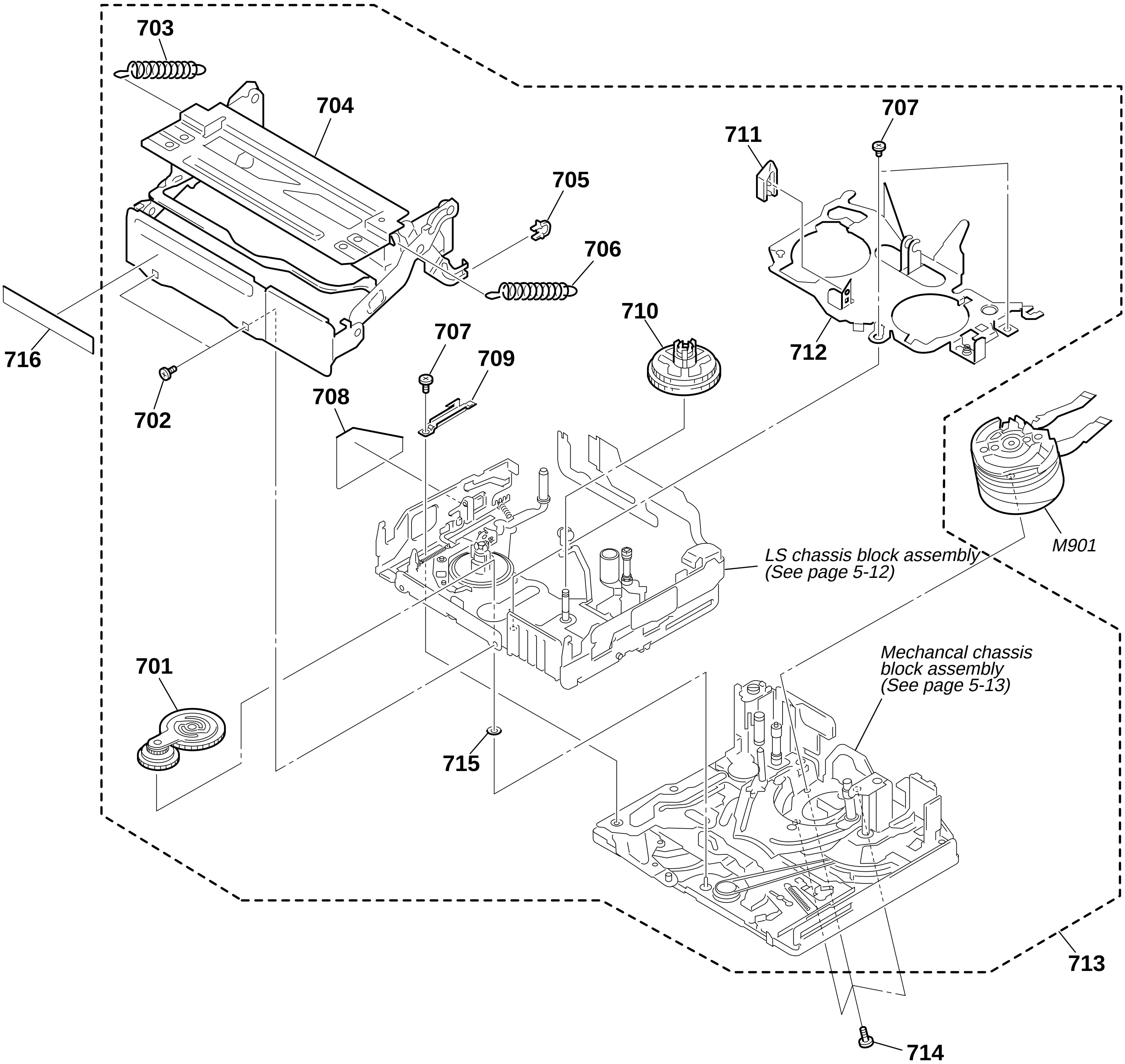
Ref. No.	Part No.	Description	Remarks
351	3-080-441-01	EMBLEM, P	
352	X-3953-103-1	CABINET (C) ASSY, P	
353	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
354	1-962-081-11	HARNESS (PV-140)	
355	3-080-387-01	COVER (C) (40), HINGE	
356	X-3953-107-2	HINGE (40) ASSY	
357	1-687-550-11	FP-626 FLEXIBLE BOARD	
358	3-080-496-01	COVER (M) (40), HINGE	
359	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	

Ref. No.	Part No.	Description	Remarks
360	A-7013-528-A	PD-188 BOARD, COMPLETE	
361	3-080-498-01	FRAME (40), PANEL	
362	3-080-499-01	SHEET (40), INSULATING, LCD	
363	3-080-497-01	CUSHION (T), LCD	
364	X-3953-106-1	CABINET (M) (40) ASSY, P	
365	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
LCD901	8-753-052-10	ACX307AKM-1	
⚠ND901	1-477-755-11	BLOCK LIGHT GUIDE PLATE (2.5)	
S101	1-771-039-31	SWITCH, PUSH (PANEL REVERSE)	

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

5. REPAIR PARTS LIST

5-1-9. OVERALL (MECHANISM DECK-Z100)


703
704
707
711
705
706
710
712
716
707
709
702
708
LS chassis block assembly
(See page 5-12)
M901
701
Mechancal chassis
block assembly
(See page 5-13)
715
713
714

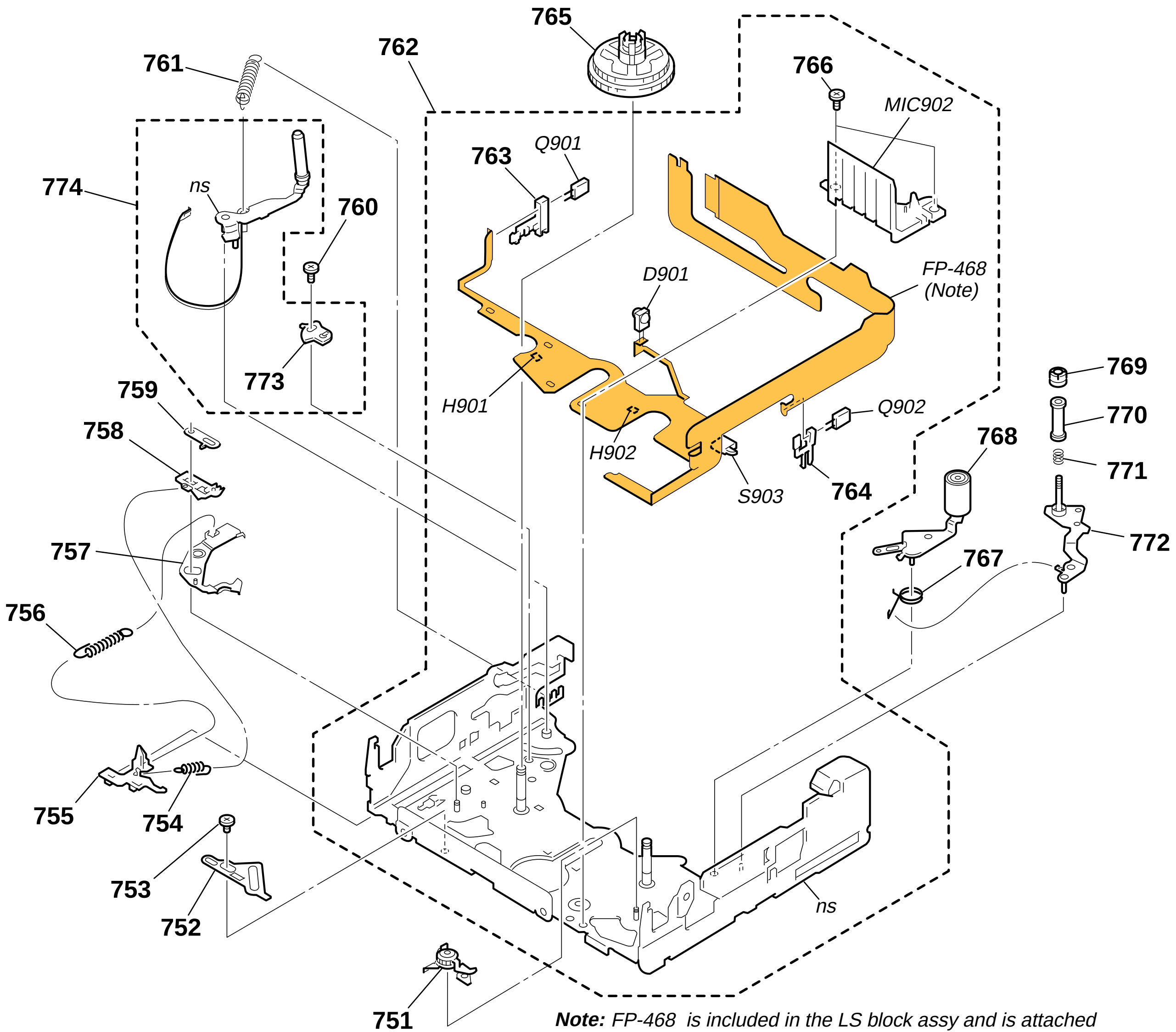
Ref. No.	Part No.	Description	Remarks
701	X-3952-938-3	GEAR ASSY, GOOSENECK	
702	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD	
703	3-079-206-02	SPRING (POP UP S), TXTENSION	
704	X-3952-939-3	COMPARTMENT ASSY, CASSETTE	
705	3-079-367-02	DAMPER, CASSETTE COMPARTMENT	
706	3-079-215-02	SPRING (POP UP T), EXTENSION	
707	3-703-816-15	SCREW (M1.4), SPECIAL HEAD	
708	3-080-545-01	COVER, SENSOR S	

Ref. No.	Part No.	Description	Remarks
709	3-079-364-01	RETAINER, LS GUIDE	
710	X-3952-937-1	TABLE ASSY, T REEL	
711	3-079-366-01	RELEASE, REEL LOCK	
712	X-3953-257-1	PLATE ASSY,RETAINER	
713	A-7095-393-A	MD (Z100) SUB ASSY	
714	3-079-741-02	SCREW,DRUM FIXING	
715	3-748-682-01	WASHER, T	
716	3-081-221-01	LABEL (Z), LS	
M901	A-7048-981-A	DRUM (DEH-30A-R) (SERVICE)	

COVER

5-1-10. LS CHASSIS BLOCK ASSEMBLY

ns : not supplied



Note: *FP-468 is included in the LS block assy and is attached to chassis by hot-press. because installation of FP-468 requires a very high accuracy, FP-468 is hot supplied as an independent service parts.*

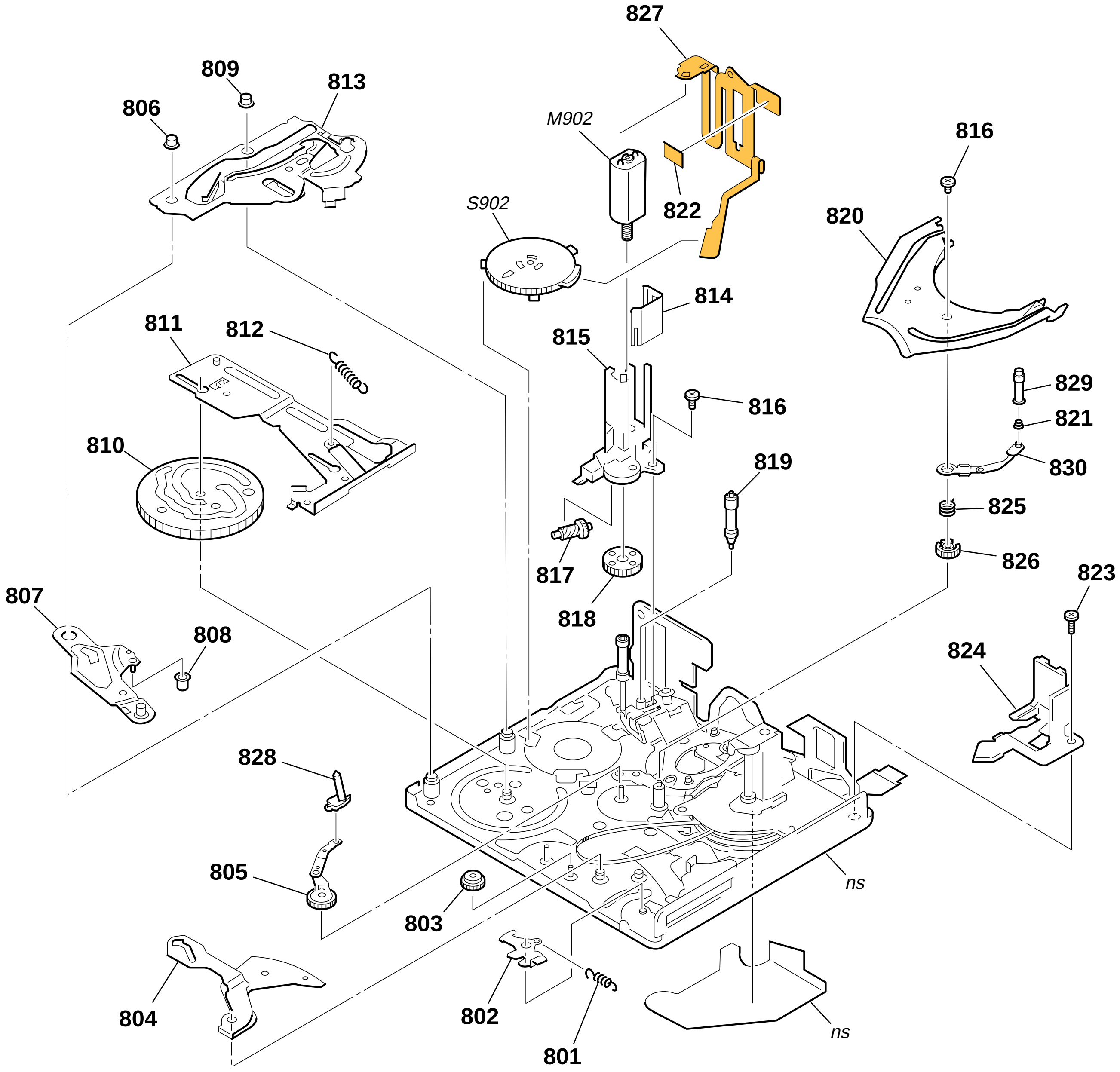
Ref. No.	Part No.	Description	Remarks
751	A-7095-402-B	BRAKE (T) BLOCK ASSY	
752	3-079-241-01	PLATE, LS CAM	
753	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD	
754	3-079-246-01	SPRING(RELEASE RACK),EXTENSION	
755	3-079-248-01	POSITIONING(S), CASSETTE	
756	3-079-244-01	SPRING (ULE), EXTENSION	
757	X-3952-932-2	BRAKE ASSY, ULE	
758	3-079-245-01	RACK (S), RELEASE	
759	3-079-247-01	BRAKE (S)	
760	3-059-090-11	SCREW (M1.4X2.5), SPECIAL HEAD	
761	3-079-242-01	SPRING, TENSION (TENSION REGULATOR)	
762	A-7095-401-A	LS BLOCK ASSY	
763	3-079-267-01	HOLDER (S), SENSOR	
764	3-079-268-01	HOLDER (T), SENSOR	
765	X-3952-936-2	TABLE ASSY, S REEL	
766	3-703-816-15	SCREW (M1.4), SPECIAL HEAD	
767	3-079-243-02	SPRING (PINCH RETURN), TORSION	
768	X-3952-934-1	ARM ASSY, PINCH	
769	3-052-062-02	NUT, TG7	
770	3-079-219-02	TG7	
771	3-081-591-01	SPRING, COMPRESSION (TG7)	
772	X-3952-935-3	ARM ASSY, TG7	
773	3-079-237-01	ADJUSTOR, BAND	
774	A-7095-403-B	TG2 ARM BLOCK ASSY	
D901	6-500-652-01	DIODE GL453SE0000F (TAPE LED)	
H901	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (S REEL)	
H902	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (T REEL)	
MIC902	1-817-175-12	PIN, CONNECTOR (WITH DETECTION SWITCH)	
S903	1-529-566-51	SWITCH, PUSH (1 KEY) (C.C. DOWN)	
Q901	6-550-402-01	TRANSISTOR PT4850FE000F (TAPE END)	
Q902	6-550-402-01	TRANSISTOR PT4850FE000F (TAPE TOP)	

COVER

5. REPAIR PARTS LIST

5-1-11. MECHANICAL CHASSIS BLOCK ASSEMBLY

ns : not supplied


827
809
813
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M902
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S902
822
820
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ns
801

Ref. No.	Part No.	Description	Remarks
801	3-079-314-01	SPRING (EJ), EXTENSION	
802	3-079-327-01	ARM, EJ	
803	3-079-323-02	GEAR, CONVERSION	
804	3-079-324-01	ARM, GL DRIVING	
805	X-3952-928-1	GL (S) ASSY	
806	3-079-315-01	ROLLER (S1), LS GUIDE	
807	X-3952-925-2	ARM ASSY, LS	
808	3-079-320-01	ROLLER, LS	
809	3-079-316-01	ROLLER (S2), LS GUIDE	
810	3-079-319-01	GEAR, CAM	
811	X-3952-941-3	SLIDER ASSY, M	
812	3-079-321-02	SPRING (PINCH), EXTENSION	
813	X-3952-940-2	PLATE ASSY, TG2 CAM	
814	3-079-312-01	SHIELD, MOTOR	
815	3-079-307-01	HOLDER, MOTOR	
816	3-703-816-15	SCREW (M1.4), SPECIAL HEAD	
817	3-079-308-01	SHAFT, WORM	
818	3-079-309-01	GEAR, DECELERATION	
819	X-3952-942-3	ROLLER ASSY, TG3	
820	3-079-325-01	RAIL, GUIDE	
821	3-079-295-02	SPRING, TG5	
822	1-677-049-11	FP-228 FLEXIBLE BOARD (DEW SENSOR)	
823	3-079-328-01	SCREW ,SPECIAL (EG GRIP)	
824	3-079-326-02	SUPPORT, TG7	
825	3-079-301-01	SPRING (GLT), TORSION	
826	3-079-298-01	GEAR (T), GL	
827	1-686-798-11	FP-467 FLEXIBLE BOARD	
828	X-3952-927-2	COASTER (S) ASSY	
829	X-3952-930-4	ROLLER ASSY, TG5	
830	X-3952-929-3	COASTER (T) ASSY	
M902	A-7095-396-A	MOTOR BLOCK ASSY, L (LOADING)	
S902	1-477-679-11	ROTARY, ENCODER (SWITCH)	

CD-430 **CK-129** **FP-626** **JK-242** **LB-085**

5-2. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description			
	A-7013-526-A	CD-430 BOARD, COMPLETE			
		************************			
		(IC5001 is not included in this COMPLETE board)			
		< CAPACITOR >			
C5001	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C5002	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C5003	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5004	1-113-987-11	TANTAL. CHIP	4.7uF	20%	25V
		< CONNECTOR >			
CN5001	1-691-352-21	CONNECTOR, FFC/FPC (ZIF) 14P			
		< COIL >			
L5001	1-414-406-11	INDUCTOR	220uH		
		< IC >			
IC5001	A-7031-244-A	CCD BLOCK ASSY (CCD IMAGER)(TRV22)			
IC5001	A-7031-276-A	CCD BLOCK ASSY (CCD IMAGER)(TRV22E)			
		< TRANSISTOR >			
Q5001	8-729-117-73	TRANSISTOR	2SC4178-F13F14-T1		
		< RESISTOR >			
R5001	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
	A-7013-534-A	CK-129 BOARD, COMPLETE			
		**********************			
		< BATTERY >			
BT5201	1-756-128-11	BATTERY, LITHIUM (SECONDARY)			
		< CONNECTOR >			
CN5205	1-778-506-21	PIN, CONNECTOR (PC BOARD) 2P			
CN5207	1-766-866-21	CONNECTOR, FFC/FPC 6P			
CN5208	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P			
CN5209	1-766-336-21	CONNECTOR, FFC/FPC 6P			
CN5210	1-794-376-21	PIN, CONNECTOR 4P			
		< DIODE >			
D5203	8-719-056-85	DIODE UDZSTE-178.2B			
D5205	6-500-289-01	DIODE MAZW082H0LS0			
		< RESISTOR >			
R5201	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5223	1-218-945-11	RES-CHIP	220	5%	1/16W
		< SWITCH >			
S5203	1-771-138-82	SWITCH, KEY BOARD (RESET)			
S5207	1-762-805-21	SWITCH, PUSH (1 KEY) (PANEL CLOSE/OPEN)			

Be sure to read "Precautions upon replacing CCD imager" on page 4-9 when changing the CCD imager.

CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

Ref. No.	Part No.	Description			
	1-687-550-11	FP-626 BOARD, COMPLETE			
		**********************			
S101	1-771-039-31	SWITCH, PUSH (PANEL REVERSE)			
	A-7013-551-A	JK-242 BOARD, COMPLETE			
		**********************			
		< CONNECTOR >			
CN5301	1-794-962-11	CONNECTOR, SQUARE TYPE(USB 5P) (USB)			
CN5302	1-794-276-11	CONNECTOR, SQUARE TYPE 4P (DV)			
CN5303	1-691-380-21	CONNECTOR, FFC/FPC 16P			
		< DIODE >			
D5302	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D5304	8-719-078-02	DIODE 1SS357(T3SONY1)			
		< FERRITE BEAD >			
FB5301	1-500-444-11	FERRITE	0uH		
FB5302	1-500-444-11	FERRITE	0uH		
		< JACK >			
J5301	1-778-040-11	JACK, SMALL TYPE (AUDIO/VIDEO)			
		< LINE FILTER >			
LF5301	1-419-983-21	INDUCTOR	0uH		
		< RESISTOR >			
R5304	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5305	1-218-979-11	RES-CHIP	150K	5%	1/16W
R5306	1-216-864-11	METAL CHIP	0	5%	1/16W
		< VARISTOR >			
VD5301	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5302	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5303	1-803-974-21	VARISTOR, CHIP	(1608)		
	A-7013-525-A	LB-085 BOARD, COMPLETE			
		**********************			
		< CAPACITOR >			
C5601	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5602	1-164-505-11	CERAMIC CHIP	2.2uF		16V
		< CONNECTOR >			
CN5601	1-779-334-11	CONNECTOR, FFC/FPC 20P			
CN5602	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P			
		< DIODE >			
D5602	6-500-375-01	DIODE NSCW455T-TC9			
		< IC >			
IC5601	8-759-581-11	IC NJM2125F(TE2)			

Ref. No.	Part No.	Description			
		< TRANSISTOR >			
Q5602	8-759-054-48	TRANSISTOR	UP04601008S0		
		< RESISTOR >			
R5603	1-208-941-11	METAL CHIP	180K	0.5%	1/16W
R5604	1-208-719-11	METAL CHIP	33K	0.5%	1/16W
R5605	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R5606	1-216-839-11	METAL CHIP	33K	5%	1/16W
R5607	1-211-983-11	METAL CHIP	39	0.5%	1/10W

Ref. No.	Part No.	Description			
	A-7013-530-A	MA-421 BOARD, COMPLETE ************************			
		< CAPACITOR >			
C5404	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C5501	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C5502	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5503	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C5504	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5505	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5506	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5510	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5511	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5512	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5513	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5514	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5516	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5517	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5519	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5520	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5521	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5523	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5528	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C5529	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C5532	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C5535	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C5537	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
		< CONNECTOR >			
CN5401	1-778-507-21	PIN, CONNECTOR (PC BOARD) 4P			
CN5402	1-815-235-11	CONNECTOR, FFC/FPC (ZIF) 37P			
		< DIODE >			
D5401	6-500-506-01	DIODE TLRMV1021(T15SOY,F)			
D5403	6-500-289-01	DIODE MAZW082H0LS0			
D5404	8-719-073-01	DIODE MA111-(K8).S0			
D5405	6-500-512-01	DIODE CL-330IRS-X-TU			
D5407	6-500-506-01	DIODE TLRMV1021(T15SOY,F)			
D5408	8-719-056-85	DIODE UDZSTE-178.2B			
D5409	8-719-056-85	DIODE UDZSTE-178.2B			
D5410	8-719-056-85	DIODE UDZSTE-178.2B			
		< FERRITE BEAD >			
FB5401	1-469-179-21	FERRITE	0uH		
FB5402	1-469-179-21	FERRITE	0uH		
FB5403	1-469-179-21	FERRITE	0uH		
FB5404	1-469-179-21	FERRITE	0uH		
FB5405	1-500-444-11	FERRITE	0uH		

Ref. No.	Part No.	Description			
FB5406	1-500-444-11	FERRITE	0uH		
FB5407	1-500-444-11	FERRITE	0uH		
FB5408	1-500-444-11	FERRITE	0uH		
FB5409	1-500-444-11	FERRITE	0uH		
FB5410	1-500-444-11	FERRITE	0uH		
FB5411	1-500-444-11	FERRITE	0uH		
		< IC >			
IC5401	6-600-047-01	IC RS-670			
IC5501	8-759-679-11	IC BH7870AKV-E2			
		< JACK >			
J5401	1-691-737-41	JACK (SMALL TYPE) (MIC(PLUG IN POWER)			
J5402	1-793-995-11	JACK, SUPER SMALL TYPE (◐ LANC)			
J5404	1-694-688-11	TERMINAL, S (S VIDEO)			
J5405	1-569-950-41	JACK (SMALL TYPE) (🎧 (HEADPHONES))			
		< COIL >			
L5501	1-469-528-91	INDUCTOR	100uH		
		< RESISTOR >			
R5401	1-216-864-11	METAL CHIP	0	5%	1/16W
R5402	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R5403	1-216-864-11	METAL CHIP	0	5%	1/16W
R5405	1-216-805-11	METAL CHIP	47	5%	1/16W
R5406	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R5407	1-216-864-11	METAL CHIP	0	5%	1/16W
R5408	1-216-864-11	METAL CHIP	0	5%	1/16W
R5501	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5502	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R5503	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5504	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5505	1-218-990-11	SHORT CHIP	0		
R5506	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5507	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5508	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R5509	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R5510	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5511	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5515	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5517	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5520	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R5521	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R5522	1-218-990-11	SHORT CHIP	0		
R5524	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5525	1-218-966-11	RES-CHIP	12K	5%	1/16W
R5527	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R5530	1-218-990-11	SHORT CHIP	0		
R5531	1-218-990-11	SHORT CHIP	0		
R5532	1-218-990-11	SHORT CHIP	0		
R5533	1-218-990-11	SHORT CHIP	0		
R5534	1-218-990-11	SHORT CHIP	0		
		< SENSOR >			
SE5401	1-476-807-31	SENSOR, ANGULAR VELOCITY (YAW)			
SE5402	1-476-807-41	SENSOR, ANGULAR VELOCITY (PITCH)			

Ref. No.	Part No.	Description			
		< VARISTOR >			
VD5401	1-801-862-11	VARISTOR, CHIP	(1608)		
VD5402	1-801-862-11	VARISTOR, CHIP	(1608)		
VD5403	1-801-923-11	VARISTOR, CHIP	(1608)		
VD5407	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5408	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5409	1-801-862-11	VARISTOR, CHIP	(1608)		
VD5410	1-801-862-11	VARISTOR, CHIP	(1608)		

Ref. No.	Part No.	Description			
	A-7013-528-A	PD-188 BOARD, COMPLETE ***********************			
		< CAPACITOR >			
C6001	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C6002	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C6003	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6004	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6005	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6007	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6008	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6009	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C6010	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6011	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C6012	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6013	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C6014	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C6015	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C6016	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C6017	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C6018	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C6019	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C6022	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6023	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C6024	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C6101	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C6103	1-164-657-11	CERAMIC CHIP	0.015uF	10%	50V
C6104	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
⚠C6105	1-100-371-11	CERAMIC CHIP	12PF	5%	3.15KV
		< CONNECTOR >			
CN6001	1-815-031-11	CONNECTOR, FFC/FPC (ZIF) 24P			
CN6101	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
CN6201	1-794-997-11	PIN, CONNECTOR 20P			
CN6202	1-794-376-21	PIN, CONNECTOR 4P			
CN6203	1-691-344-11	CONNECTOR, FFC/FPC (ZIF) 6P			
		< DIODE >			
D6001	8-719-084-47	DIODE 1SV290(TPL3)			
D6003	8-719-050-42	DIODE RD3.3UM-T1B			
D6103	8-719-073-01	DIODE MA111-(K8).S0			
D6201	8-719-056-85	DIODE UDZSTE-178.2B			
		< FERRITE BEAD >			
FB6001	1-414-760-21	FERRITE	0uH		
FB6002	1-414-760-21	FERRITE	0uH		

Ref. No.	Part No.	Description			
		< IC >			
IC6001	8-752-109-08	IC CXA3289BR-T4			
IC6002	8-752-407-33	IC CXD3512R-T4			
IC6101	8-759-564-49	IC TC7W53FU(TE12R)			
IC6102	8-759-075-70	IC TA75S393F-TE85R			
		< COIL >			
L6001	1-469-525-91	INDUCTOR	10uH		
L6002	1-412-949-21	INDUCTOR	6.8uH		
L6101	1-428-878-11	INDUCTOR	82uH		
		< TRANSISTOR >			
Q6001	8-759-054-48	TRANSISTOR	UP04601008S0		
Q6002	8-759-054-48	TRANSISTOR	UP04601008S0		
Q6003	6-550-234-01	TRANSISTOR	UNR32A300LS0		
Q6004	6-550-232-01	TRANSISTOR	2SA2029T2LQ/R		
Q6005	6-550-232-01	TRANSISTOR	2SA2029T2LQ/R		
Q6101	6-550-234-01	TRANSISTOR	UNR32A300LS0		
Q6102	6-550-065-01	TRANSISTOR	CPH5504-TL-E		
		< RESISTOR >			
R6001	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R6002	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6003	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6004	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6006	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R6007	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6008	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6009	1-218-975-11	RES-CHIP	68K	5%	1/16W
R6010	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6011	1-218-975-11	RES-CHIP	68K	5%	1/16W
R6012	1-218-989-11	RES-CHIP	1M	5%	1/16W
R6013	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6014	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6015	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6016	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6017	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6018	1-218-966-11	RES-CHIP	12K	5%	1/16W
R6019	1-218-989-11	RES-CHIP	1M	5%	1/16W
R6020	1-218-975-11	RES-CHIP	68K	5%	1/16W
R6021	1-218-979-11	RES-CHIP	150K	5%	1/16W
R6022	1-208-957-11	RES-CHIP	820K	5%	1/16W
R6023	1-218-990-11	SHORT CHIP	0		
R6103	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6104	1-218-980-11	RES-CHIP	180K	5%	1/16W
R6105	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6106	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R6107	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6108	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6110	1-218-949-11	RES-CHIP	470	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB6001	1-234-372-21	RES, NETWORK 100X4		(1005)	

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			
		< TRANSFORMER >			
⚠T6101	1-435-786-31	TRANSFORMER, INVERTER			
	A-7013-554-A	VA-118 BOARD, COMPLETE **********************			
		< CAPACITOR >			
C4001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4003	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4005	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4109	1-119-749-11	TANTAL. CHIP	33uF	20%	4V
C4110	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4111	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C4112	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C4113	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C4114	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4115	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4116	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C4117	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4201	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4203	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4204	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4205	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4206	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4207	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C4208	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4209	1-113-986-11	TANTAL. CHIP	2.2uF	20%	25V
C4210	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4211	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4212	1-164-876-11	CERAMIC CHIP	120PF	5%	50V
C4213	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4214	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4215	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4216	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V
C4217	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C4301	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4302	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4303	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C4304	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C4305	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4306	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4307	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4308	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4309	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4310	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4311	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4312	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4314	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4501	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4502	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4503	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4504	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C4505	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4506	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4507	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4508	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4509	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4510	1-164-934-11	CERAMIC CHIP	330PF	10%	50V
C4511	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4512	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C4513	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4514	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4515	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C4516	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4517	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4518	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4520	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C4521	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4522	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4523	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4526	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4527	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C4528	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C4529	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4530	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4531	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4532	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4533	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4535	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4536	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4537	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C4538	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C4539	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C4540	1-125-827-91	CERAMIC CHIP	1uF	10%	25V
C4541	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4542	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4543	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4544	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4545	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4546	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4547	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4548	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C4549	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4550	1-113-988-11	TANTAL. CHIP	68uF	20%	4V
C4551	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4553	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C4554	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4555	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C4557	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C4558	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4559	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C4560	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4562	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C4601	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4602	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4603	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4604	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C4605	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C4606	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C4607	1-109-982-11	CERAMIC CHIP	1uF	10%	10V

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Ref. No.	Part No.	Description
		< CONNECTOR >
CN4001	1-691-374-11	CONNECTOR, FFC/FPC 10P
CN4002	1-766-613-21	CONNECTOR, FFC/FPC 36P
CN4003	1-794-998-31	PIN, CONNECTOR 20P
CN4004	1-774-603-21	CONNECTOR, BOARD TO BOARD 100P
CN4005	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P
CN4201	1-766-350-21	CONNECTOR, FFC/FPC 20P
* CN4602	1-580-056-21	PIN, CONNECTOR (SMD) 3P
* CN4603	1-580-056-21	PIN, CONNECTOR (SMD) 3P
		< DIODE >
D4001	6-500-289-01	DIODE MAZW082H0LS0
D4002	6-500-289-01	DIODE MAZW082H0LS0
D4101	8-719-073-01	DIODE MA111-(K8).S0
D4102	8-719-056-85	DIODE UDZSTE-178.2B
D4103	8-719-056-85	DIODE UDZSTE-178.2B
D4201	8-719-084-47	DIODE 1SV290(TPL3)
D4502	8-719-421-27	DIODE MA728-(K8).S0
D4503	6-500-314-01	DIODE DAN222MT2L
D4504	8-719-074-08	DIODE MA4ZD03001S0
D4507	8-719-074-08	DIODE MA4ZD03001S0
D4601	6-500-289-01	DIODE MAZW082H0LS0
D4602	8-719-081-19	DIODE 1SS383(T5RSONY1)
D4603	8-719-056-23	DIODE 1SS387-TPL3
D4604	8-719-056-23	DIODE 1SS387-TPL3
		< FUSE >
⚠F4601	1-576-406-21	FUSE 1.4A 32V
⚠F4602	1-576-406-21	FUSE 1.4A 32V
⚠F4603	1-576-406-21	FUSE 1.4A 32V
⚠F4604	1-576-406-21	FUSE 1.4A 32V
⚠F4605	1-576-406-21	FUSE 1.4A 32V
		< FERRITE BEAD >
FB4201	1-469-676-22	FERRITE 0uH
FB4202	1-500-329-21	FERRITE 0uH
		< IC >
IC4101	6-803-026-01	IC MB89097PFV-G-155-BND-ER-E1
IC4201	8-752-109-08	IC CXA3289BR-T4
IC4202	8-752-405-57	IC CXD3501AR-T4
IC4301	8-759-489-19	IC uPC6756GR-8JG-E2
IC4502	6-703-429-01	IC MB44A120APFV-G-BND-ERE1
IC4504	6-703-227-01	IC TK11131CSCL-G
		< COIL >
L4201	1-469-525-91	INDUCTOR 10uH
L4202	1-469-891-21	INDUCTOR 6.8uH
L4301	1-469-570-21	INDUCTOR 10uH
L4501	1-416-670-11	INDUCTOR 33uH
L4502	1-416-669-11	INDUCTOR 22uH
L4503	1-416-669-11	INDUCTOR 22uH
L4504	1-416-669-11	INDUCTOR 22uH
L4505	1-416-670-11	INDUCTOR 33uH
L4506	1-416-669-11	INDUCTOR 22uH
L4507	1-416-670-11	INDUCTOR 33uH
L4508	1-469-524-91	INDUCTOR 4.7uH
L4509	1-469-524-91	INDUCTOR 4.7uH
L4510	1-469-757-21	INDUCTOR 10uH
L4511	1-469-524-91	INDUCTOR 4.7uH
L4512	1-469-524-91	INDUCTOR 4.7uH
L4513	1-469-524-91	INDUCTOR 4.7uH
L4514	1-469-524-91	INDUCTOR 4.7uH
L4515	1-469-526-91	INDUCTOR 22uH
L4516	1-469-524-91	INDUCTOR 4.7uH
L4517	1-469-524-91	INDUCTOR 4.7uH
L4518	1-469-524-91	INDUCTOR 4.7uH
L4519	1-469-524-91	INDUCTOR 4.7uH
L4520	1-469-524-91	INDUCTOR 4.7uH
L4521	1-469-524-91	INDUCTOR 4.7uH
L4601	1-412-056-11	INDUCTOR 4.7uH
		< LINE FILTER >
LF4602	1-456-391-21	INDUCTOR 0uH
		< TRANSISTOR >
Q4001	6-550-102-01	TRANSISTOR 2SC5663T2L
Q4002	6-550-235-01	TRANSISTOR UNR32A500LS0
Q4003	6-550-238-01	TRANSISTOR UNR31A100LS0
Q4004	8-729-053-57	TRANSISTOR RN1902FE(TPLR3)
Q4005	8-729-054-44	TRANSISTOR RN2902FE(TPLR3)
Q4101	8-729-041-43	TRANSISTOR HN1L02FU(TE85R)
Q4504	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4505	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4506	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4507	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4508	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4509	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4510	6-550-560-01	TRANSISTOR CPH5819-TL-E
Q4513	6-550-237-01	TRANSISTOR 2SC5658T2LQ/R
Q4514	8-729-101-07	TRANSISTOR 2SB798-T1-DLDK
Q4515	6-550-237-01	TRANSISTOR 2SC584600LS0
Q4516	6-550-232-01	TRANSISTOR 2SA207800LS0
Q4517	6-550-232-01	TRANSISTOR 2SA207800LS0
Q4518	8-759-054-50	TRANSISTOR UP04501008S0
Q4519	8-759-054-50	TRANSISTOR UP04501008S0
Q4520	6-550-237-01	TRANSISTOR 2SC584600LS0
Q4521	8-729-054-49	TRANSISTOR UP04401008S0
Q4524	8-729-216-22	TRANSISTOR 2SA1162-YG-TE85L
Q4525	8-759-054-50	TRANSISTOR UP04501008S0
Q4526	6-550-406-01	TRANSISTOR MCH3335-S-TL-E
Q4601	8-729-047-68	TRANSISTOR SSM3K03FE(TPL3)
Q4602	6-550-404-01	TRANSISTOR UPA1858GR-9JG-E2-A
Q4603	8-729-101-07	TRANSISTOR 2SB798-T1-DLDK
Q4604	6-550-234-01	TRANSISTOR UNR32A300LS0
Q4608	8-729-056-19	TRANSISTOR TPC6101(TE85R)
Q4610	6-550-234-01	TRANSISTOR UNR32A300LS0

Note :	**Note :**
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Ref. No.	Part No.	Description			
		< RESISTOR >			
R4002	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4004	1-216-009-91	RES-CHIP	22	5%	1/10W
R4005	1-216-009-91	RES-CHIP	22	5%	1/10W
R4006	1-218-939-11	RES-CHIP	68	5%	1/16W
R4007	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R4008	1-218-990-11	SHORT CHIP	0		
R4009	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4103	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4104	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4105	1-218-990-11	SHORT CHIP	0		
R4106	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4109	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4110	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4111	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4112	1-218-989-11	METAL CHIP	1M	0.5%	1/16W
R4113	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4114	1-219-570-11	METAL CHIP	10M	5%	1/10W
R4115	1-218-985-11	METAL CHIP	470K	0.5%	1/16W
R4116	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4117	1-218-990-11	SHORT CHIP	0		
R4118	1-216-857-11	METAL CHIP	1M	5%	1/16W
R4119	1-218-949-11	RES-CHIP	470	5%	1/16W
R4120	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4121	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4122	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4123	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4124	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4201	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4202	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4204	1-218-990-11	SHORT CHIP	0		
R4206	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R4207	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4208	1-218-975-11	RES-CHIP	68K	5%	1/16W
R4209	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4210	1-218-975-11	RES-CHIP	68K	5%	1/16W
R4211	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4212	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4213	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4214	1-218-989-11	METAL CHIP	1M	0.5%	1/16W
R4215	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4301	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4302	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4303	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4304	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4501	1-220-200-81	RES-CHIP	30K	5%	1/16W
R4502	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4503	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4504	1-218-990-11	SHORT CHIP	0		
R4505	1-218-990-11	SHORT CHIP	0		
R4506	1-218-990-11	SHORT CHIP	0		
R4507	1-218-990-11	SHORT CHIP	0		
R4508	1-218-990-11	SHORT CHIP	0		
R4509	1-218-990-11	SHORT CHIP	0		
R4510	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4511	1-218-970-11	RES-CHIP	27K	5%	1/16W
R4512	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4513	1-218-971-11	RES-CHIP	33K	5%	1/16W
R4514	1-218-972-11	RES-CHIP	39K	5%	1/16W
R4515	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4516	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4517	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R4518	1-208-910-11	RES-CHIP	9.1K	5%	1/16W
R4519	1-218-990-11	SHORT CHIP	0		
R4520	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4522	1-218-990-11	SHORT CHIP	0		
R4523	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4524	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R4525	1-218-990-11	SHORT CHIP	0		
R4526	1-218-935-11	RES-CHIP	33	5%	1/16W
R4537	1-218-966-11	RES-CHIP	12K	5%	1/16W
R4538	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4539	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4540	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4541	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4543	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4545	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4546	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4547	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4549	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4550	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R4551	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4552	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4553	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4554	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R4555	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4556	1-218-967-11	RES-CHIP	15K	5%	1/16W
R4557	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R4561	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4562	1-218-949-11	RES-CHIP	470	5%	1/16W
R4563	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R4564	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R4567	1-218-990-11	SHORT CHIP	0		
R4601	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4604	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4605	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4607	1-216-797-11	METAL CHIP	10	5%	1/16W
R4608	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R4609	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R4611	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4614	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4615	1-218-965-11	RES-CHIP	10K	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB4101	1-234-378-21	RES, NETWORK 10KX4		(1005)	
RB4104	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4105	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4106	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4107	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4108	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4109	1-234-381-21	RES, NETWORK 100KX4		(1005)	

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

VA-118 VC-312

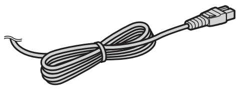
Ref. No.	Part No.	Description	
RB4201	1-234-372-21	RES, NETWORK 100X4	(1005)
RB4301	1-234-379-21	RES, NETWORK 22KX4	(1005)
		< VIBRATOR >	
X4101	1-760-458-21	VIBRATOR, CRYSTAL (32.768KHZ)	
X4102	1-795-244-11	VIBRATOR, CERAMIC (10MHz)	

Ref. No.	Part No.	Description
	A-7078-607-A	VC-312 BOARD, COMPLETE (SERVICE) **********************

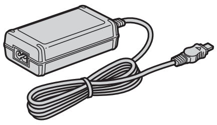
Electrical parts list of the VC-312 board are not shown.
Pages from 5-21 to 5-26 are not shown.

Checking supplied accessories.

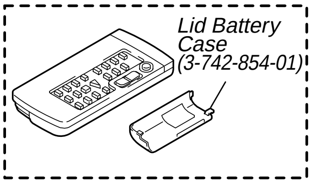
Make sure that the following accessories are supplied with your camcorder.



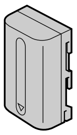
Power cord (Main lead)(1)
(AUS model)
⚠ 1-696-819-21
Power cord (Main lead)(1)
(AEP, E, EE, NE model)
⚠ 1-769-608-11
Power cord (Main lead)(1)
(CH model)
⚠ 1-782-476-11
Power cord (Main lead)(1)
(UK, HK model)
⚠ 1-783-374-11
Power cord (Main lead)(1)
(US, CND model)
⚠ 1-790-107-22
Power cord (Main lead)(1)
(JE model)
⚠ 1-790-732-11
Power cord (Main lead)(1)
(KR model)
⚠ 1-776-985-11



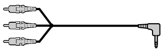
AC power adaptor (1) (AC-L15A)
(US, CND, AEP, UK, E, HK, AUS, EE, NE, KR, JE, BR model)
⚠ 1-477-533-31
AC power adaptor (1) (AC-L15A)
(CH model)
⚠ 1-477-533-41



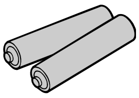
Wireless Remote Commander (1)
(RMT-814)
1-475-141-61



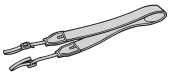
NP-FM30 battery pack (1)
⚠ A-7096-387-A
(US, CND model)
⚠ A-7096-388-B
(Except US, CND model)



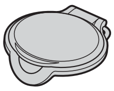
A/V connecting cable
(1.5m) (1)
1-824-097-11



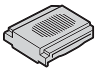
R6 (size AA) batteries
for the Remote
Commander (2)
(not supplied)



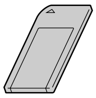
Shoulder strap (1)
3-987-015-01



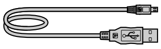
Lens cap (1)
X-3953-088-1



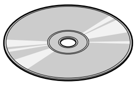
Shoe cover (1)
3-080-571-01



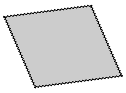
"Memory Stick" (1)
(MSA-8A)
A-7024-735-A



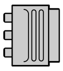
USB cable (1)
1-823-931-11



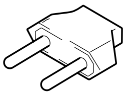
CD-ROM
(SPVD-010 USB Driver) (1)
(TRV22:E, HK, BR, JE, KR/ TRV22E only)
3-078-942-01
CD-ROM
(SPVD-010(I) USB Driver) (1)
(TRV22:US,CND model)
3-078-943-01



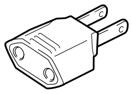
Cleaning cloth (1)
3-073-861-01



21-pin adaptor (1)
(AEP, UK, EE, NE model)
1-770-783-21



2-pin conversion adaptor (1)
(TRV22:JE/TRV22E:JE only)
1-569-007-12



2-pin conversion adaptor (1)
(TRV22:E,HK/ TRV22E:E,HK only)
1-569-008-12

- Abbreviation

CND : Canadian model
EE : East European model
NE : North European model
HK : Hong Kong model
AUS : Australian model
CH : Chinese model
JE : Tourist model
KR : Korea model
BR : Brazlian model

Other accessories

3-080-368-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH) (TRV22E:AEP, UK, AUS, CH, E, HK, JE)
3-080-368-21	MANUAL, INSTRUCTION (SPANISH/PORTUGUESE) (TRV22E:AEP)
3-080-368-31	MANUAL, INSTRUCTION (ITALIAEN/GREEK)(TRV22E:AEP)
3-080-368-41	MANUAL, INSTRUCTION (GERMAN/DUTCH)(TRV22E:AEP)
3-080-368-51	MANUAL, INSTRUCTION (SWEDISH/RUSSIAN) (TRV22E:NE, E, JE)
3-080-368-61	MANUAL, INSTRUCTION (DANISH/FINNISH)(TRV22E:NE)
3-080-368-71	MANUAL, INSTRUCTION (ARABIC/PERSIAN)(TRV22E:E)
3-080-368-81	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV22E:HK)
3-080-368-91	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE) (TRV22E:E, CH, JE)
3-080-369-11	MANUAL, INSTRUCTION (ENGLISH) (TRV22:US, CND, E, HK, JE)
3-080-369-21	MANUAL, INSTRUCTION (FRENCH) (TRV22:CND)
3-080-369-31	MANUAL, INSTRUCTION (SPANISH/PORTUGUESE) (TRV22:E, JE)
3-080-369-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV22:E, HK)
3-080-369-51	MANUAL, INSTRUCTION (KOREAN) (TRV22:JE, KR)
3-080-369-61	MANUAL, INSTRUCTION (ARABIC) (TRV22:E)

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Sony EMCS Co.

2003F1600-1
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Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2003.02	Official Release	—	—
1.1	2003.06	Correction-1	Change of the parts S.M. Correction: Page 2-4, Page 5-11, Page 5-27	Yes

DCR-TRV22/TRV22E

RMT-814

SERVICE MANUAL

LEVEL 2

Ver 1.2 2003. 09

Revision History

US Model
Canadian Model
Korea Model
Brazilian Model
DCR-TRV22

AEP Model
UK Model
North European Model
East European Model
Chinese Model
Australian Model
DCR-TRV22E

E Model
Hong Kong Model
Tourist Model
DCR-TRV22/TRV22E

Photo : DCR-TRV22

Z MECHANISM

Link

• SPECIFICATIONS	• BLOCK DIAGRAMS	• PRINTED WIRING BOARDS
• SERVICE NOTE	• FRAME SCHEMATIC DIAGRAMS	• REPAIR PARTS LIST
• DISASSEMBLY	• SCHEMATIC DIAGRAMS	

- For INSTRUCTION MANUAL, refer to SERVICE MANUAL, LEVEL 1 (987622241.pdf).
- For MECHANISM ADJUSTMENTS, refer to the “DV MECHANICAL ADJUSTMENT MANUAL Ⅶ Z MECHANISM ” (9-876-210-11).
- Reference No. search on printed wiring boards is available.

On the VC-312 board

This service manual provides the information that is premised the circuit board replacement service and not intended repair inside the VC-312 board.

Therefore, schematic diagram, printed wiring board, waveforms, mounted parts location and electrical parts list of the VC-312 board are not shown.

The following pages are not shown.

Schematic diagram	Pages 4-37 to 4-64
Printed wiring board	Pages 4-85 to 4-88
Waveforms	Pages 4-91 to 4-92
Mounted parts location	Page 4-95
Electrical parts list	Pages 5-21 to 5-26

Mini DV Digital Video Cassette

DIGITAL VIDEO CAMERA RECORDER

SONY®

SPECIFICATIONS

Video camera recorder

System

Video recording system
2 rotary heads
Helical scanning system

Audio recording system
Rotary heads, PCM system
Quantization: 12 bits (Fs 32 kHz, stereo 1, stereo 2), 16 bits (Fs 48 kHz, stereo)

Video signal
DCR-TRV22:
NTSC color, EIA standards
DCR-TRV22E:
PAL colour, CCIR standards

Usable cassette
Mini DV cassette with the MiniDV mark printed

Tape speed
SP: Approx. 18.81 mm/s
LP: Approx. 12.56 mm/s

Recording/playback time (using cassette DVM60)
SP: 1 hour
LP: 1.5 hours

Fastforward/rewind time (using cassette DVM60)
Approx. 2 min. and 40 seconds

Viewfinder
Electric viewfinder (colour)

Image device
4.5 mm (1/4 type)
CCD (Charge Coupled Device)
Gross:
DCR-TRV22: Approx. 680 000 pixels
DCR-TRV22E: Approx. 800 000 pixels
Effective (still):
DCR-TRV22: Approx. 340 000 pixels
Effective (moving):
DCR-TRV22E: Approx. 400 000 pixels

Lens
Carl Zeiss Vario-Sonnar
Combined power zoom lens
Filter diameter: 30 mm (1 3/16 in)
10× (Optical), 120× (Digital)
F = 1.7 – 2.2

Focal length
3.3 – 33 mm (5/32 – 1 5/16 in.)1)
42 – 420 mm (1 11/16 – 16 5/8 in.)2)
42 – 420 mm (1 11/16 – 16 5/8 in.)3)

1) When converted to a 35 mm still camera
2) In CAMERA mode
3) In MEMORY mode

Colour temperature
Auto, HOLD, INDOOR (3 200 K), OUTDOOR (5 800 K)

Minimum illumination
5 lx (lux) (F1.7)
0 lx (lux) (in the NightShot mode)*

* Objects unable to be seen due to the dark can be shot with infrared lighting.

Input/Output connectors

S video input/output
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 Ω (ohms), unbalanced
Chrominance signal:
DCR-TRV22: 0.286 Vp-p,
DCR-TRV22E: 0.3 Vp-p,
75 Ω (ohms), unbalanced

Audio/Video input/output
AV MINI JACK, 1 Vp-p, 75 Ω (ohms), unbalanced
327 mV, (at output impedance more than 47 kΩ (kilohms))
Output impedance with less than 2.2 kΩ (kilohms)/Stereo minijack (ø 3.5 mm)
Input impedance more than 47 kΩ (kilohms)

DV input/output
4-pin connector

Headphone jack
Stereo minijack (ø 3.5 mm)

LANC jack
Stereo mini-minijack (ø 2.5 mm)

USB jack
mini-B

MIC jack
Minijack, 0.388 mV low impedance with 2.5 to 3.0 V DC, output impedance 6.8 kΩ (kilohms) (ø 3.5 mm)
Stereo type

LCD screen

Picture
6.2 cm (2.5 type)
50.3 × 37.4mm (2 × 1 1/2in.)

Total dot number
123 200 (560 × 220)

General

Power requirements
7.2 V (battery pack)
8.4 V (AC Adaptor)

Average power consumption (when using the battery pack)
3.3 W1)
2.5 W2)

1) During camera recording using LCD
2) Viewfinder

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to + 60°C
(–4°F to + 140°F)

Dimensions (approx.)
71 × 90 × 112 mm
(2 7/8 × 3 5/8 × 4 1/2 in.) (w/h/d)

Mass (approx.)
Main unit only
530 g (1 lb 2 oz)
Including the rechargeable battery pack NP-FM30, cassette DVM60 and lens cap
620 g (1 lb 5 oz)

Supplied accessories
See page 3.

AC Adaptor AC-L15A/L15B

Power requirements
100 – 240 V AC, 50/60 Hz

Current consumption
0.35 – 0.18 A

Power consumption
18 W

Output voltage
DC OUT: 8.4 V, 1.5 A

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to + 60°C
(–4°F to + 140°F)

Dimensions (approx.)
56 × 31 × 100 mm
(2 1/4 × 1 1/4 × 4 in.) (w/h/d)
excluding projecting parts

Mass (approx.)
190 g (6.7 oz)
excluding power cord

Rechargeable battery pack NP-FM30

Maximum output voltage
DC 8.4 V

Output voltage
DC 7.2 V

Capacity
5.0 Wh (700 mAh)

Dimensions (approx.)
38.2 · 20.5 · 55.6 mm
(1 9/16 × 13/16 × 2 1/4 in.)
(w/h/d)

Mass (approx.)
65 g (2.3 oz)

Operating temperature
0°C to 40°C (32°F to 104°F)

Type
Lithium ion

"Memory Stick"

Memory
Flash memory
8MB: MSA-8A

Operating voltage
2.7 – 3.6 V

Power consumption
Approx. 45 mA during operation mode
Approx. 130 µA during tape recording standby

Dimensions (approx.)
50 × 2.8 × 21.5 mm
(2 × 1/8 × 7/8 in.) (w/h/d)

Mass (approx.)
4 g (0.14 oz)

Design and specifications are subject to change without notice.

CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

SAFETY-RELATED COMPONENT WARNING!!

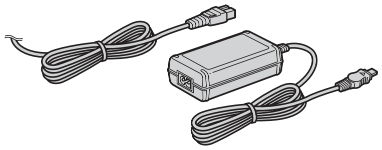
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

**ATTENTION AU COMPOSANT AYANT RAPPORT
À LA SÉCURITÉ!**

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

• SUPPLIED ACCESSORIES

Make sure that the following accessories are supplied with your camcorder.

1


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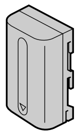

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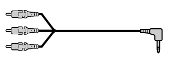

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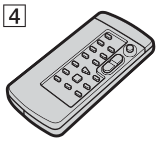

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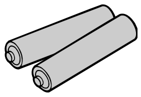

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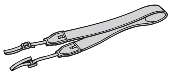

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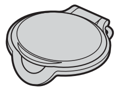

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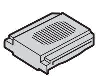

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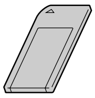

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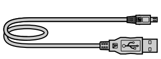

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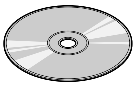

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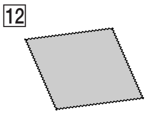

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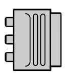

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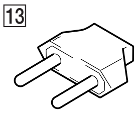

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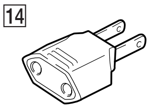

1 AC-L15A/L15B AC Adaptor (1), Power cord (1)
2 NP-FM30 rechargeable battery pack (1)
3 A/V connecting cable (1)
4 Wireless Remote Commander (1) RMT-814
5 R6 (size AA) battery for Remote Commander (2)
6 Shoulder strap (1)
7 Lens cap (1)
8 Shoe cover (1)
9 "Memory Stick" (1) MSA-8A
10 USB cable (1)
11 CD-ROM (USB Driver) (1)
SPVD-010 (I) TRV22:US, CND model only
SPVD-010 TRV22:E, HK, BR, JE, KR / TRV22E model only
12 Cleaning cloth (1)
13 21-pin adaptor* (1) (AEP, UK, EE, NE model only)
The models with CE mark printed on their bottom surfaces only.
14 2-pin conversion adaptor (1) (DCR-TRV22 : JE / TRV22E : JE only)
15 2-pin conversion adaptor (1) (DCR-TRV22 : E, HK / TRV22E : E / HK only)

- Abbreviation

CND : Canadian model
AUS : Australian model
JE : Tourist model
KR : Korea model
CH : Chinese model
EE : East European model
NE : North European model
HK : Hong Kong model

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

Unleaded solder

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

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SECTION 1
SERVICE NOTE

1-1. SERVICE NOTE

1. POWER SUPPLY DURING REPAIRS

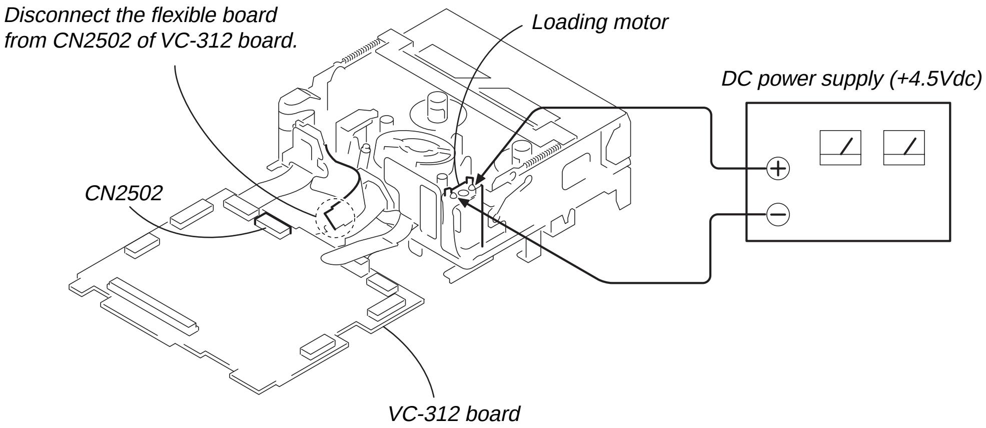
In this unit, about 10 seconds after power is supplied to the battery terminal using the regulated power supply (8.4V), the power is shut off so that the unit cannot operate.
This following two methods are available to prevent this. Take note of which to use during repairs.

Method 1.
Use the AC power adaptor (AC-L10, AC-VQ800 etc.).

Method 2.
Connect the servicing remote commander RM-95 (J-6082-053-B) to the LANC jack, and set the commander switch to the “ADJ” side.

2. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

① Refer to 2-2 to remove the cabinet (R) cover (39E).
② Refer to 2-3 to remove the F panel section.
③ Refer to 2-5 to remove the cabinet (R) section.
④ Refer to 2-10 to remove the BT panel/EVF section.
⑤ Refer to 2-14 to remove the VA-118 board and Lens section.
⑥ Refer to 2-16 to remove the VC-312 board and Mechanism deck.
⑦ Refer to 2-17 to remove the MD frame assembly from the VC-312 board and Mechanism deck.
⑧ Disconnect the flexible board from CN2502 of VC-312 board.
⑨ Supply +4.5V from the DC power supply to the loading motor and unload with a pressing the cassette compartment.


Disconnect the flexible board
from CN2502 of VC-312 board.
Loading motor
DC power supply (+4.5Vdc)
CN2502
+
−
VC-312 board

1-2. SELF-DIAGNOSIS FUNCTION

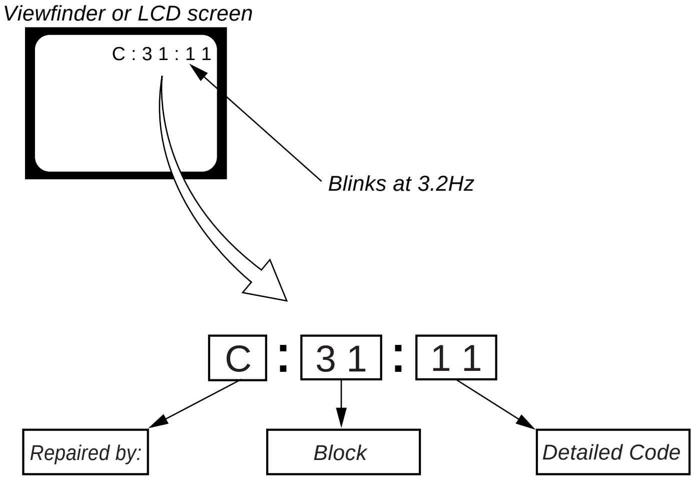
1. SELF-DIAGNOSIS FUNCTION

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder, or LCD screen what to do. This function consists of two display; self-diagnosis display and service mode display.

Details of the self-diagnosis functions are provided in the Instruction manual.

2. SELF-DIAGNOSIS DISPLAY

When problems occur while the unit is operating, the counter of the viewfinder or LCD screen consists of an alphabet and 4-digit number, which blinks at 3.2Hz. This 5-character display indicates the “repaired by:”, “block” in which the problem occurred, and “detailed code” of the problem.



C : Corrected by customer
H : Corrected by dealer
E : Corrected by service engineer

Indicates the appropriate step to be taken.
E.g.
31 ....Reload the tape.
32 ....Turn on power again.

Refer to page 1-3.
Self-diagnosis Code Table.

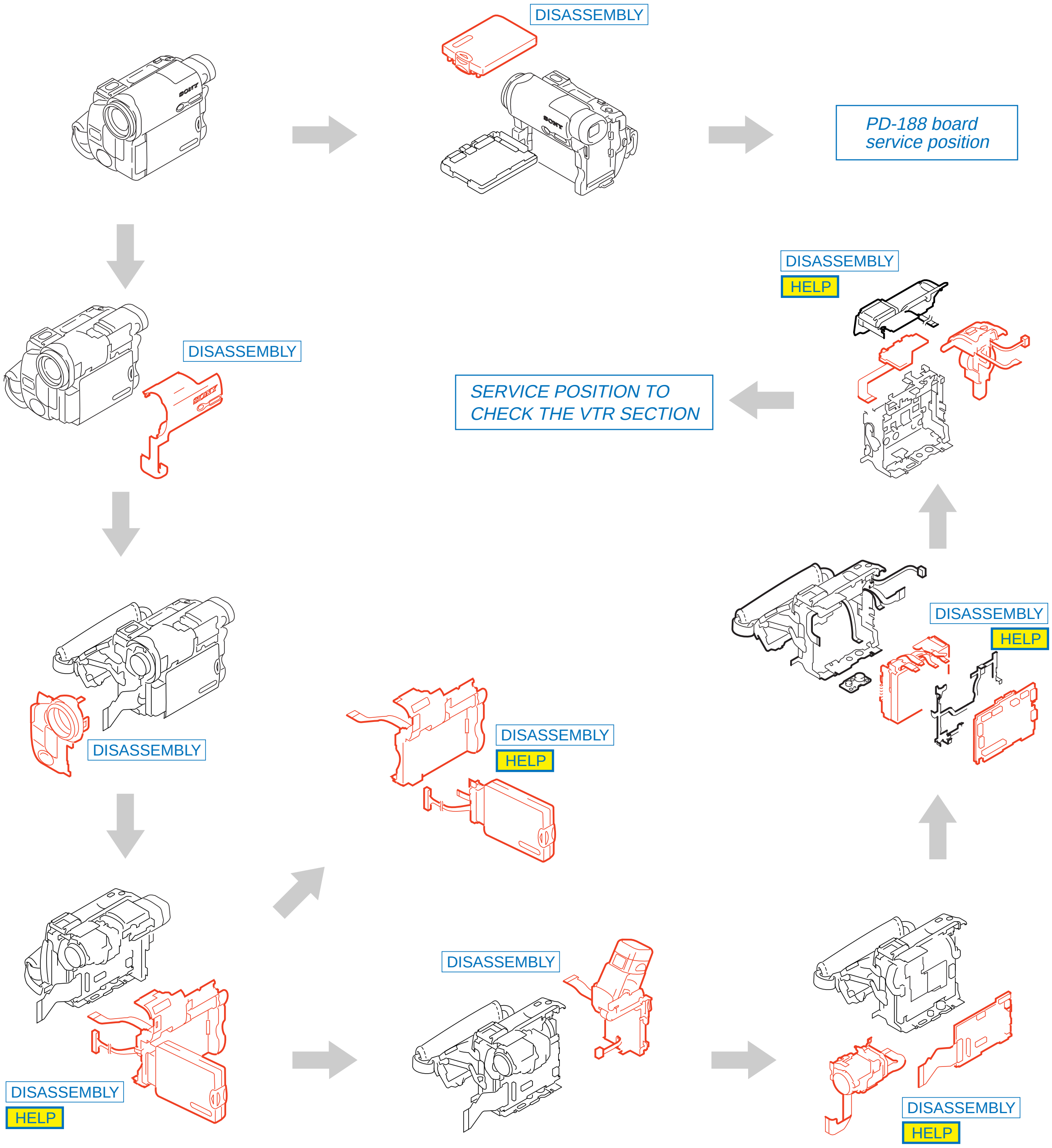
Note: The “self-diagnosis display” data will be kept even if the lithium battery (BT5201 of CK-129 board) is removed.

4. SELF-DIAGNOSIS CODE TABLE

Self-diagnosis Code					Symptom/State	Correction
Repaired by:	Block Function		Detailed Code			
C	0	4	0	0	Non-standard battery is used.	Use the info LITHIUM battery.
C	2	1	0	0	Condensation.	Remove the cassette, and insert it again after one hour.
C	2	2	0	0	Video head is dirty.	Clean with the optional cleaning cassette.
C	3	1	1	0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	1	1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	2	0	T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2	1	Winding S reel fault when counting the rest of tape.	Load the tape again, and perform operations from the beginning.
C	3	1	2	2	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	3	S reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	4	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	3	0	FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3	1	4	0	FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3	1	4	2	FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3	1	1	0	LOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	1	1	1	UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	0	T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	1	Winding S reel fault when counting the rest of tape.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	2	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	3	S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	4	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3	0	FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	0	FG fault when starting drum	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	2	FG fault during normal drum operations	Remove the battery or power cable, connect, and perform operations from the beginning.
E	6	1	0	0	Difficult to adjust focus (Cannot initialize focus.)	Inspect the lens block focus reset sensor (Pin ⑦ of CN1201 of VC-312 board) when focusing is performed when the focus buttons of the touch panel are pressed in the focus manual mode, and the focus motor drive circuit (IC1203 of VC-312 board) when the focusing is not performed.
E	6	1	1	0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the lens block zoom reset sensor (Pin ⑯ of CN1201 of VC-312 board) when zooming is performed when the zoom lens is operated and the zoom motor drive circuit (IC1203 of VC-312 board) when zooming is not performed.
E	6	2	0	0	Steadyshot function does not work well. (With pitch angular velocity sensor output stopped.)	Inspect pitch angular velocity sensor (SE5402 of MA-421 board) peripheral circuits.
E	6	2	0	1	Steadyshot function does not work well. (With yaw angular velocity sensor output stopped.)	Inspect yaw angular velocity sensor (SE5401 of A-421 board) peripheral circuits.

SECTION 2
DISASSEMBLY

The following flow chart shows the disassembly procedure.


DISASSEMBLY
PD-188 board service position
DISASSEMBLY
DISASSEMBLY
HELP
SERVICE POSITION TO CHECK THE VTR SECTION
DISASSEMBLY
DISASSEMBLY
HELP
DISASSEMBLY
HELP
DISASSEMBLY
DISASSEMBLY
HELP
DISASSEMBLY
HELP

PROCEDURE OF REMOVING THE MECHANISM DECK.
(VTR CHECK SERVICE POSITION)

① 2-2. CABINET (R) COVER (39E) ASSEMBLY .... (page 2-4)
② 2-3. F PANEL SECTION .... (page 2-5)
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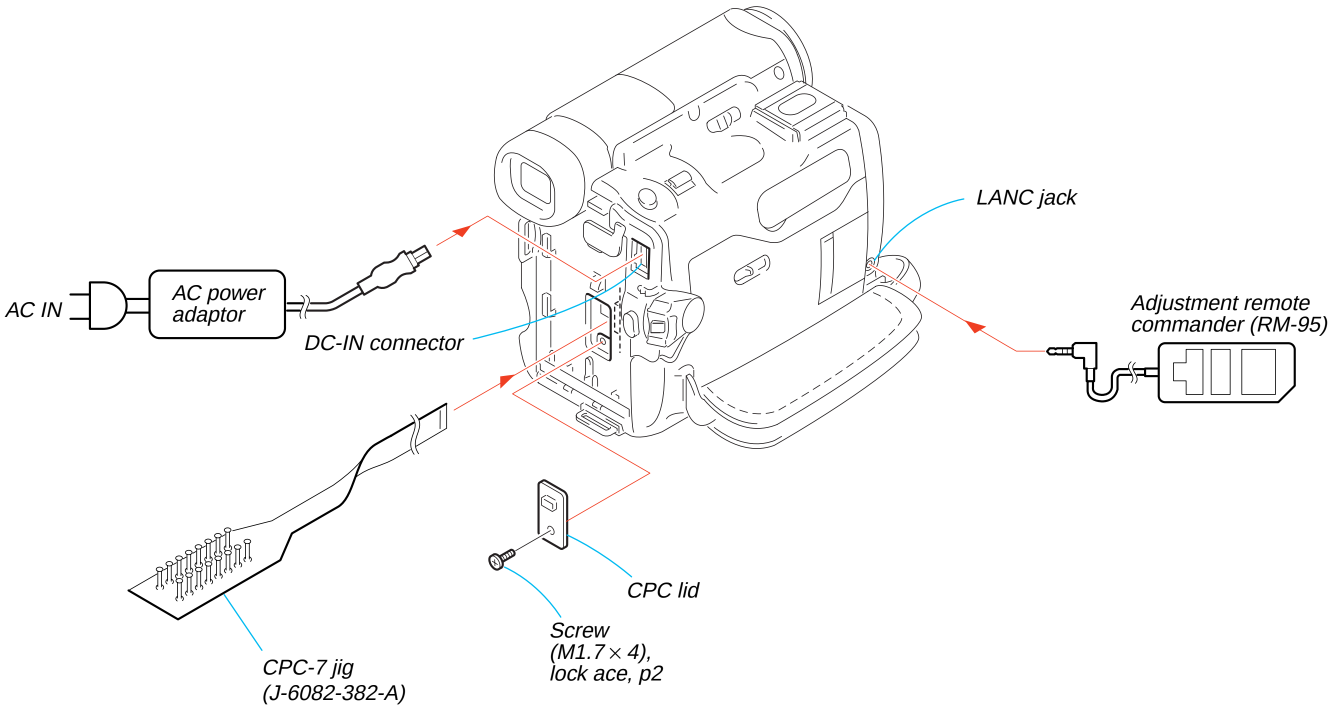
⑤ 2-14. VA-118 BOARD, LENS SECTION .... (page 2-15)
⑥ 2-16. MECHANISM DECK, VC-312 BOARD (1) .... (page 2-16)
⑦ 2-17. MECHANISM DECK, VC-312 BOARD (2) .... (page 2-17)
⑧ 2-18. CABINET (G) ASSEMBLY (40E) .... (page 2-17)
⑨ 2-19. CONTROL SWITCH BLOCK (FK-CX4000).... (page 2-18)
⑩ 2-20. JK-242 BOARD .... (page 2-18)
⑪ SERVICE POSITION TO CHECK
THE VTR SECTION... (page 2-19)

NOTE: Follow the disassembly procedure in the numerical order given.

[CONNECTION OF EQUIPMENT]

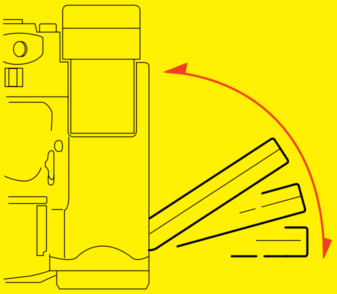

LANC jack
AC IN
AC power adaptor
Adjustment remote commander (RM-95)
DC-IN connector
CPC lid
Screw (M1.7 × 4), lock ace, p2
CPC-7 jig (J-6082-382-A)

2-1. P CABINET (C) ASSEMBLY

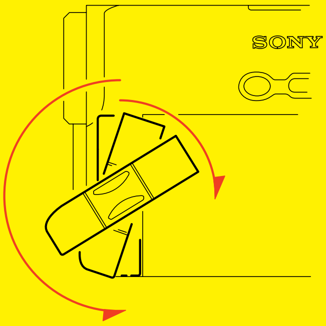
Caution

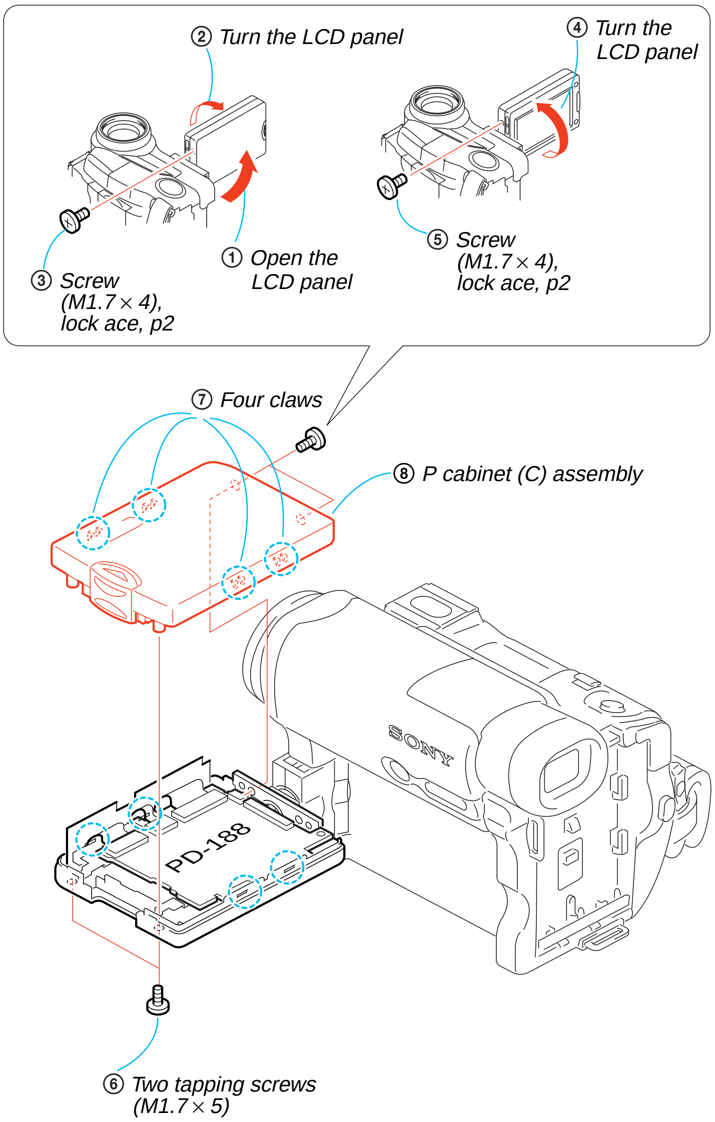
Rotation of the LCD panel has limitation due to its hinge in this model. Excessive force to rotate the LCD panel damages the hinge. Follow the precaution below.

Opening and closing of LCD panel must be performed only in the state that the LCD panel is completely in parallel (perpendicular) with the main body of the recorder.

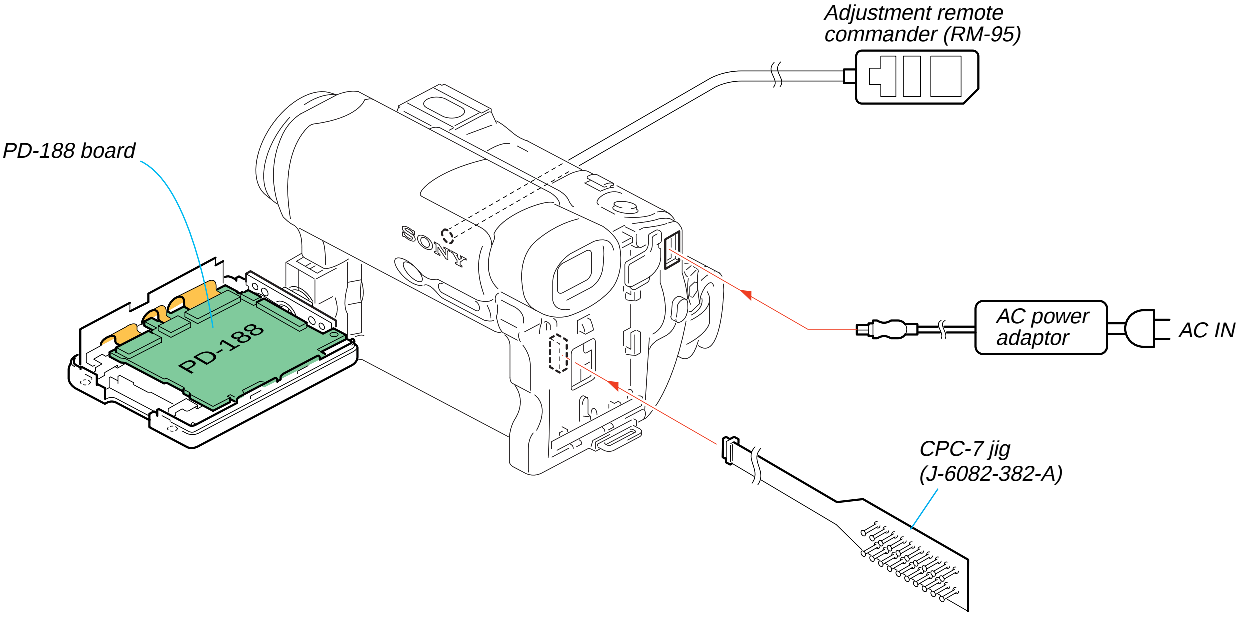


When you want to rotate the LCD panel, rotate it after the LCD panel is opened in its fully opened position.

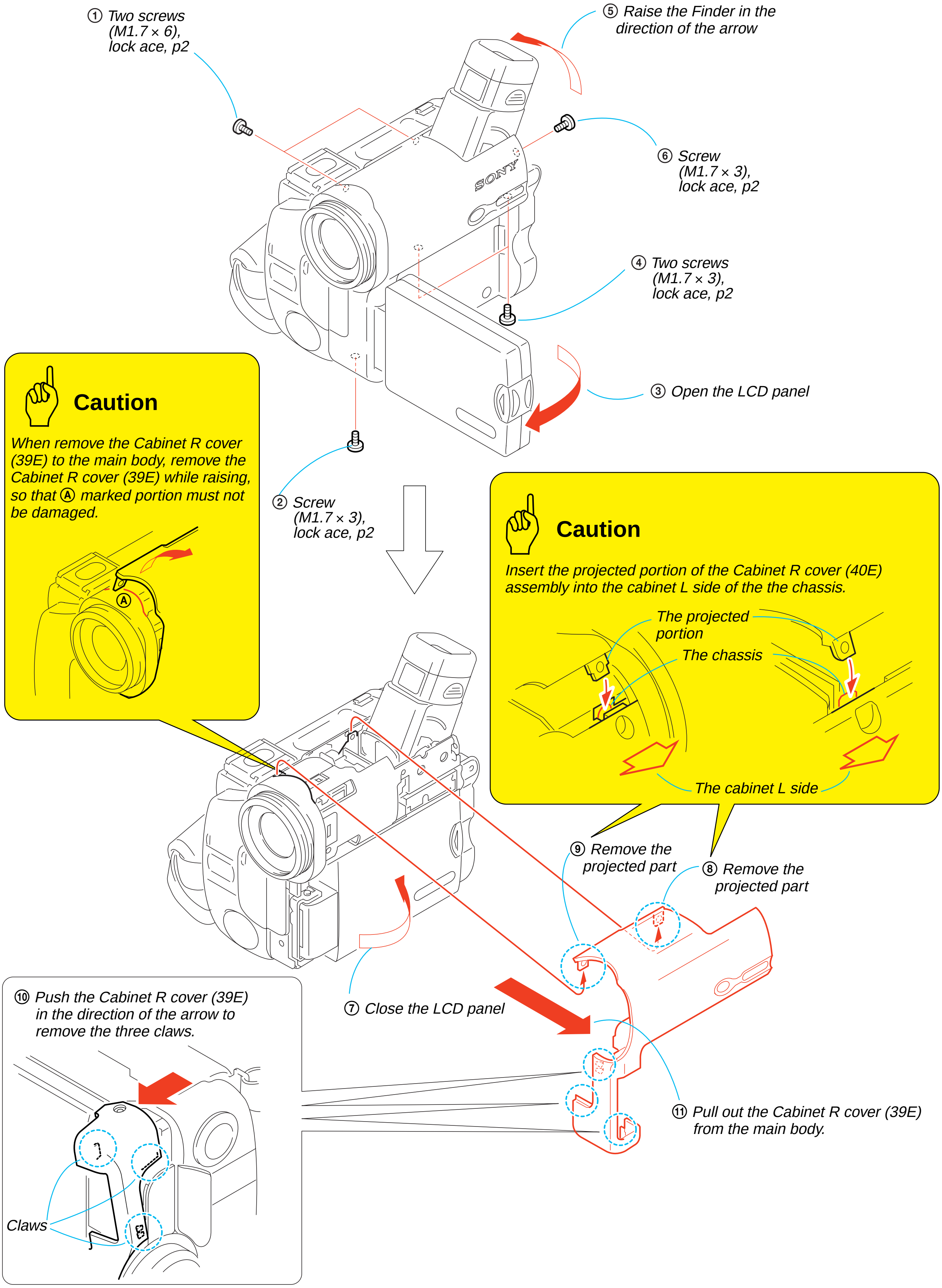



② Turn the LCD panel
④ Turn the LCD panel
① Open the LCD panel
⑤ Screw (M1.7 × 4), lock ace, p2
③ Screw (M1.7 × 4), lock ace, p2
⑦ Four claws
⑧ P cabinet (C) assembly
SONY
PD-188
⑥ Two tapping screws (M1.7 × 5)

[PD-188 BOARD SERVICE POSITION]


Adjustment remote commander (RM-95)
PD-188 board
PD-188
SONY
AC power adaptor
AC IN
CPC-7 jig (J-6082-382-A)

2-2. CABINET (R) COVER (39E) ASSEMBLY



Caution

When remove the Cabinet R cover (39E) to the main body, remove the Cabinet R cover (39E) while raising, so that Ⓐ marked portion must not be damaged.

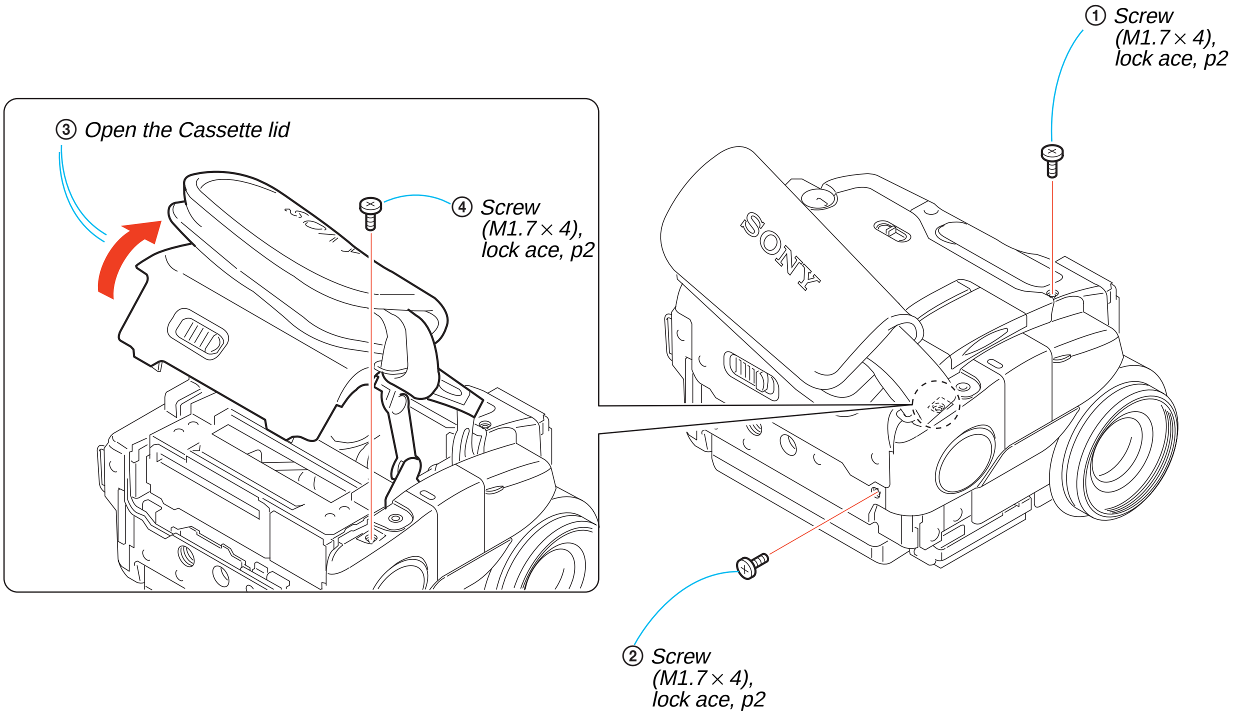
Caution

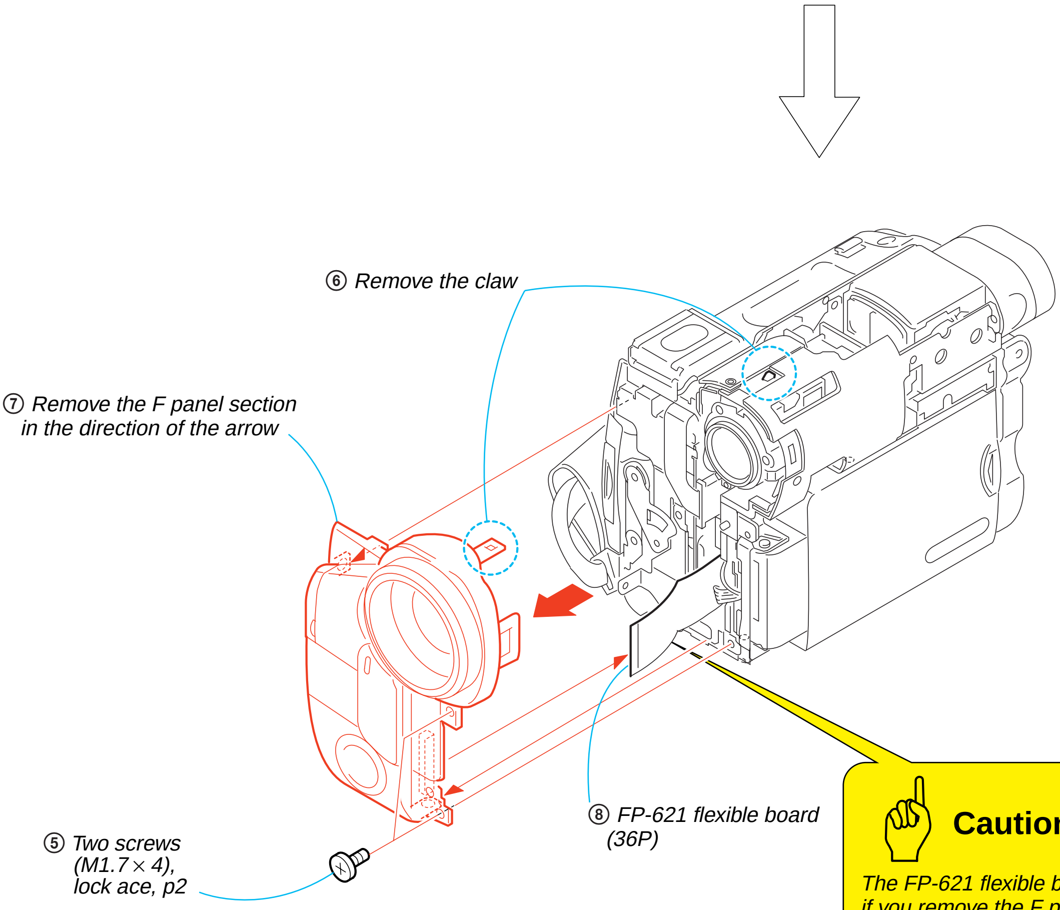
Insert the projected portion of the Cabinet R cover (40E) assembly into the cabinet L side of the the chassis.

⑩ Push the Cabinet R cover (39E) in the direction of the arrow to remove the three claws.

① Two screws (M1.7 × 6), lock ace, p2
⑤ Raise the Finder in the direction of the arrow
⑥ Screw (M1.7 × 3), lock ace, p2
④ Two screws (M1.7 × 3), lock ace, p2
③ Open the LCD panel
② Screw (M1.7 × 3), lock ace, p2
SONY
Ⓐ
The projected portion
The chassis
The cabinet L side
⑨ Remove the projected part
⑧ Remove the projected part
⑦ Close the LCD panel
⑪ Pull out the Cabinet R cover (39E) from the main body.
Claws

2-3. F PANEL SECTION

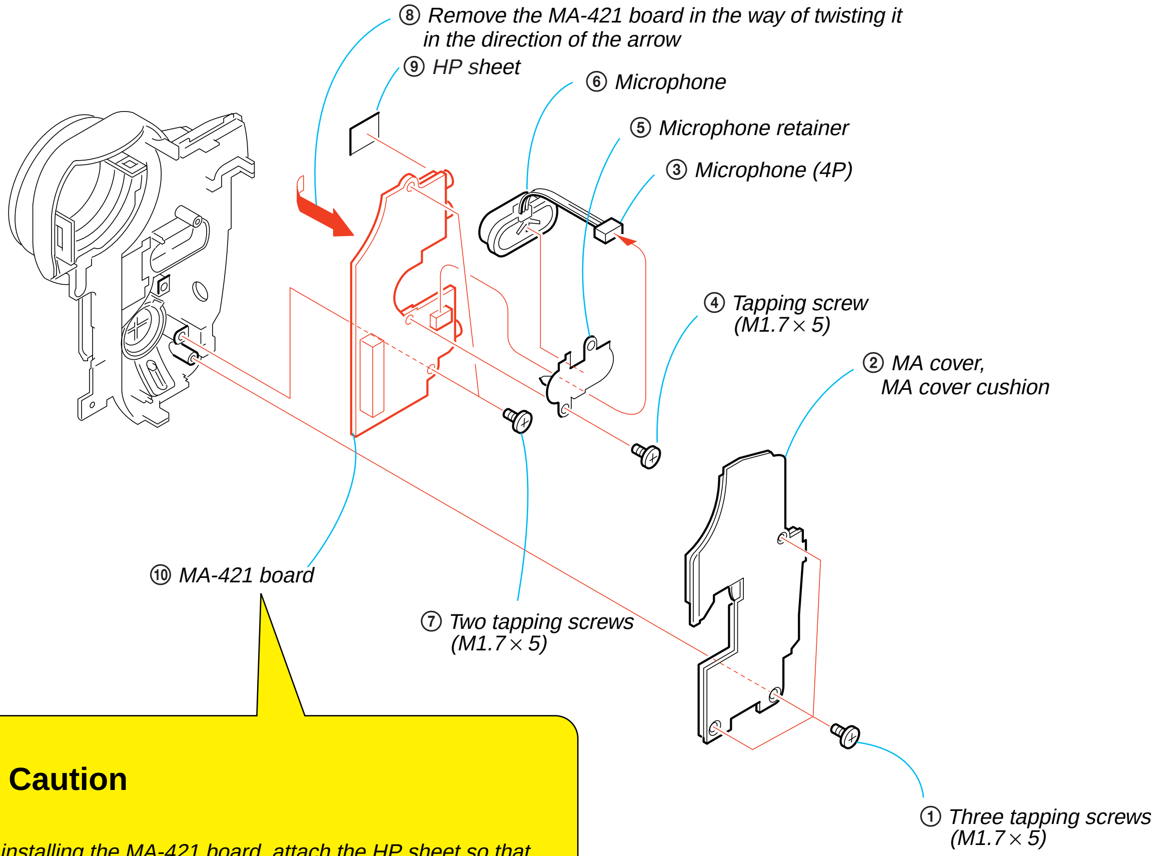

① Screw
(M1.7 × 4),
lock ace, p2
③ Open the Cassette lid
④ Screw
(M1.7 × 4),
lock ace, p2
SONY
② Screw
(M1.7 × 4),
lock ace, p2


⑥ Remove the claw
⑦ Remove the F panel section
in the direction of the arrow
⑧ FP-621 flexible board
(36P)
⑤ Two screws
(M1.7 × 4),
lock ace, p2

Caution

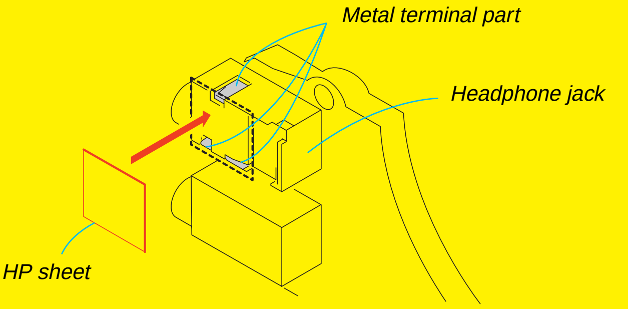
The FP-621 flexible board may be damaged if you remove the F panel section forcibly. Be very careful not to damage the flexible board.

2-4. MA-421 BOARD

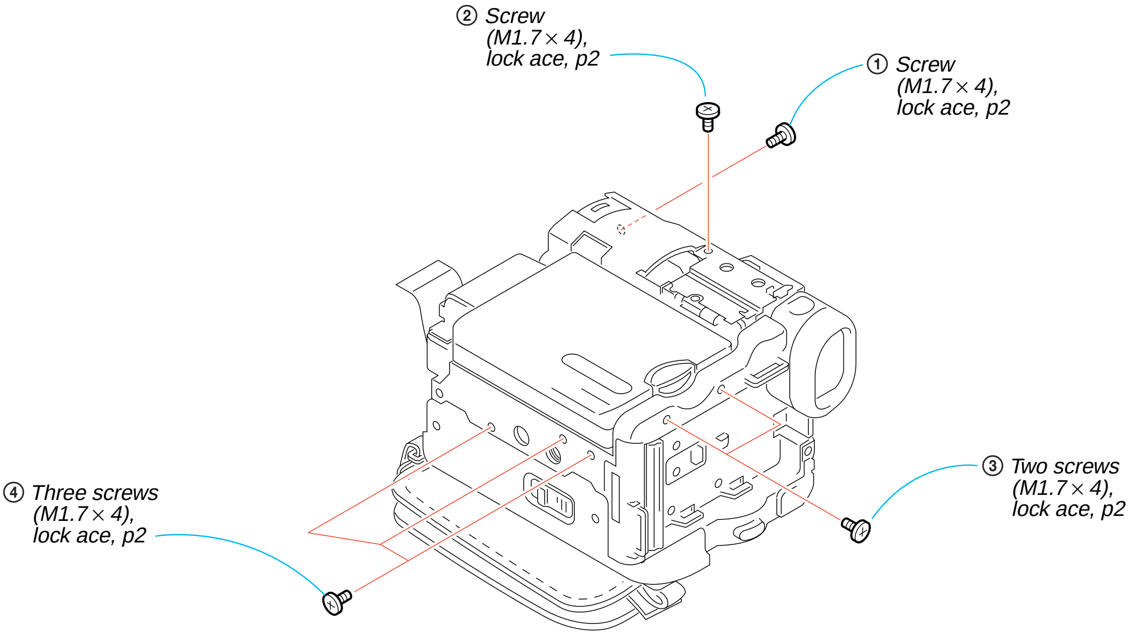

⑧ Remove the MA-421 board in the way of twisting it in the direction of the arrow
⑨ HP sheet
⑥ Microphone
⑤ Microphone retainer
③ Microphone (4P)
④ Tapping screw (M1.7 × 5)
② MA cover, MA cover cushion
⑩ MA-421 board
⑦ Two tapping screws (M1.7 × 5)
① Three tapping screws (M1.7 × 5)

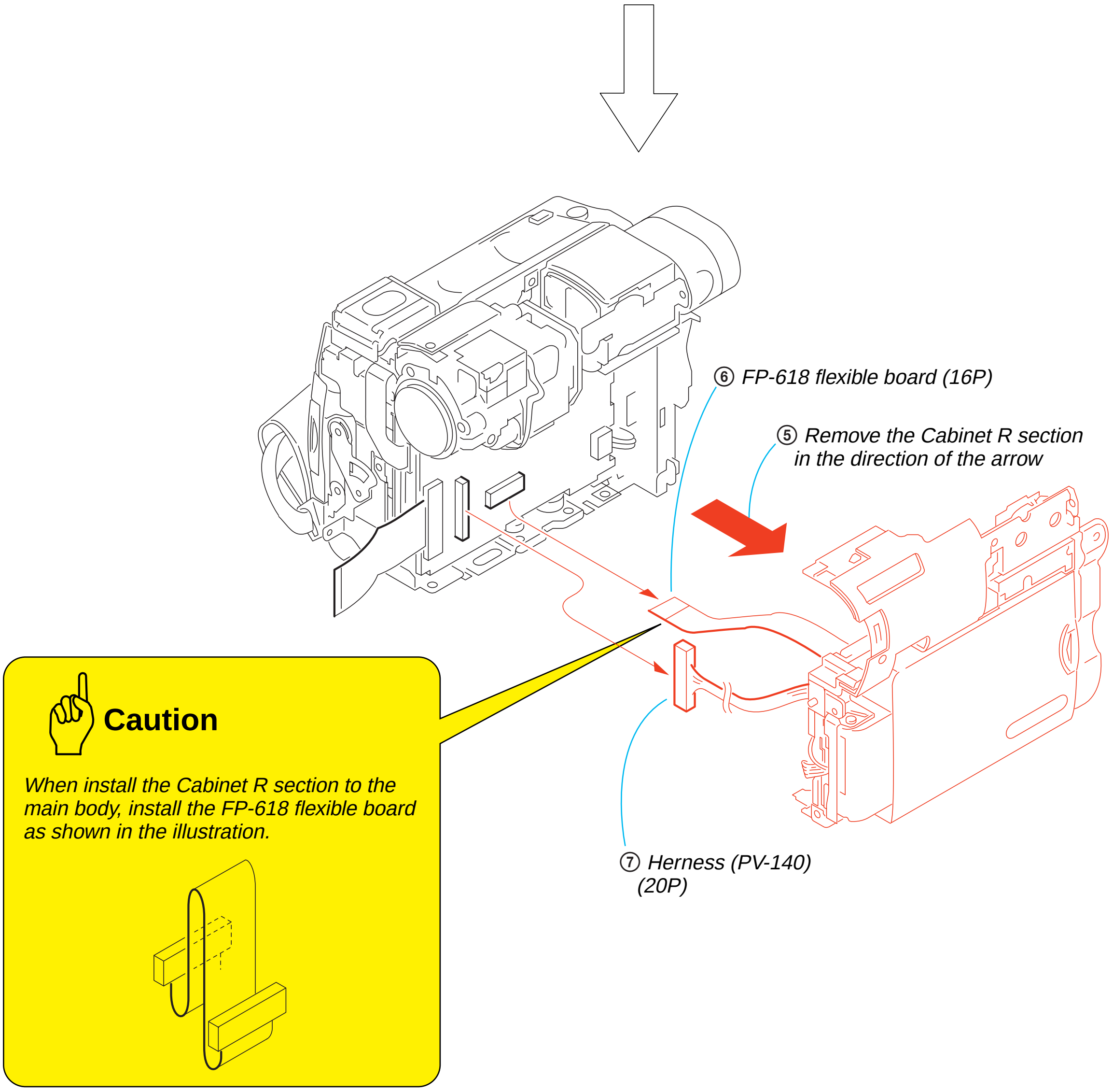
Caution

When installing the MA-421 board, attach the HP sheet so that the metal terminals of the headphones jack are hidden (insulated) by the HP sheet.


Metal terminal part
Headphone jack
HP sheet

2-5. CABINET (R) SECTION

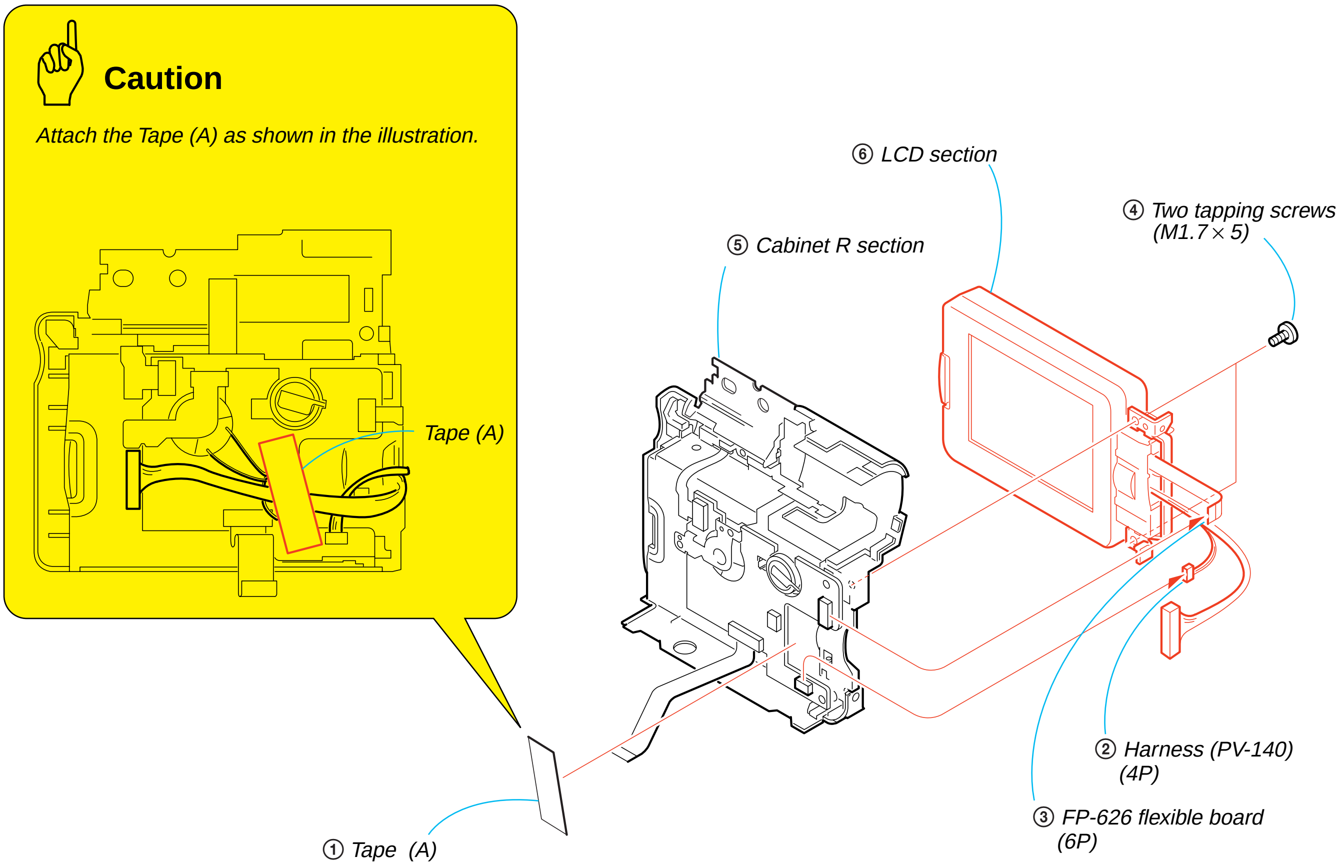

② Screw
(M1.7 × 4),
lock ace, p2
① Screw
(M1.7 × 4),
lock ace, p2
③ Two screws
(M1.7 × 4),
lock ace, p2
④ Three screws
(M1.7 × 4),
lock ace, p2


⑥ FP-618 flexible board (16P)
⑤ Remove the Cabinet R section
in the direction of the arrow
⑦ Herness (PV-140)
(20P)

Caution

When install the Cabinet R section to the main body, install the FP-618 flexible board as shown in the illustration.

2-6. LCD SECTION

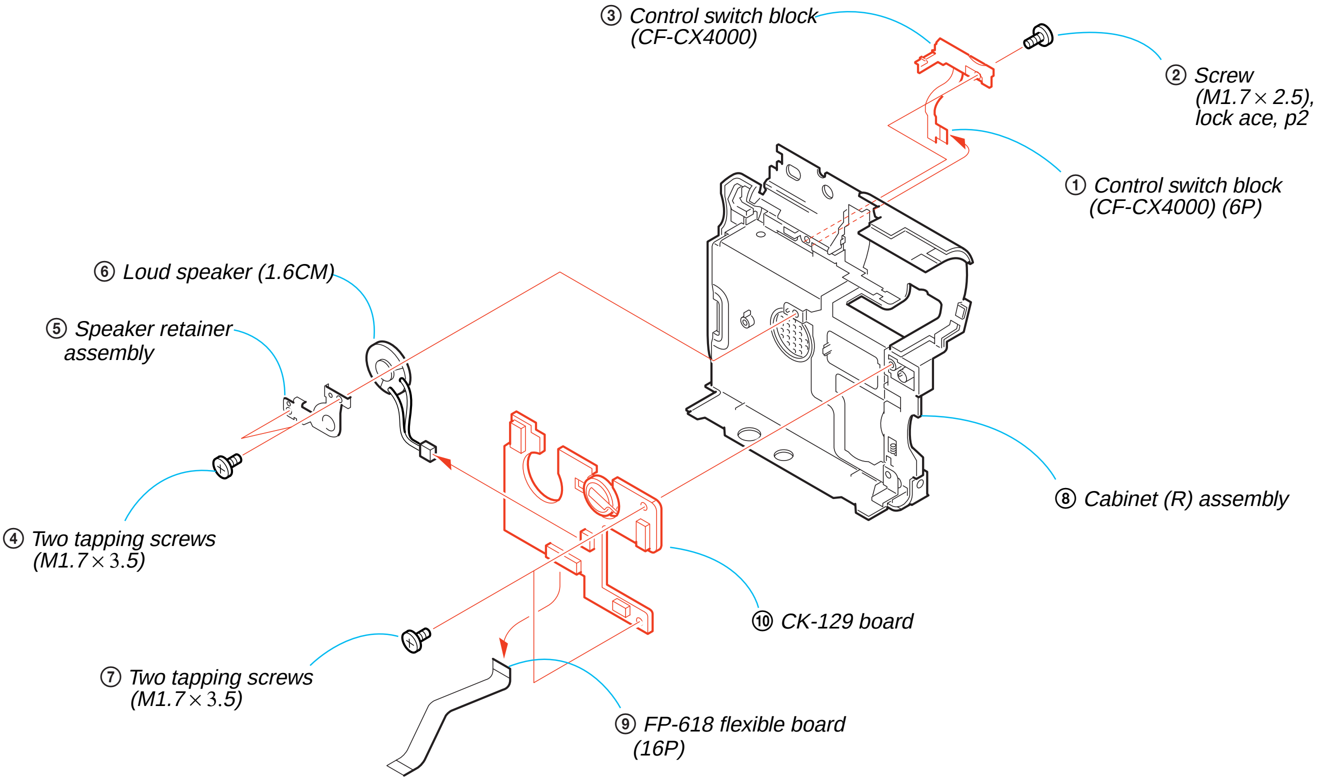


Caution

Attach the Tape (A) as shown in the illustration.

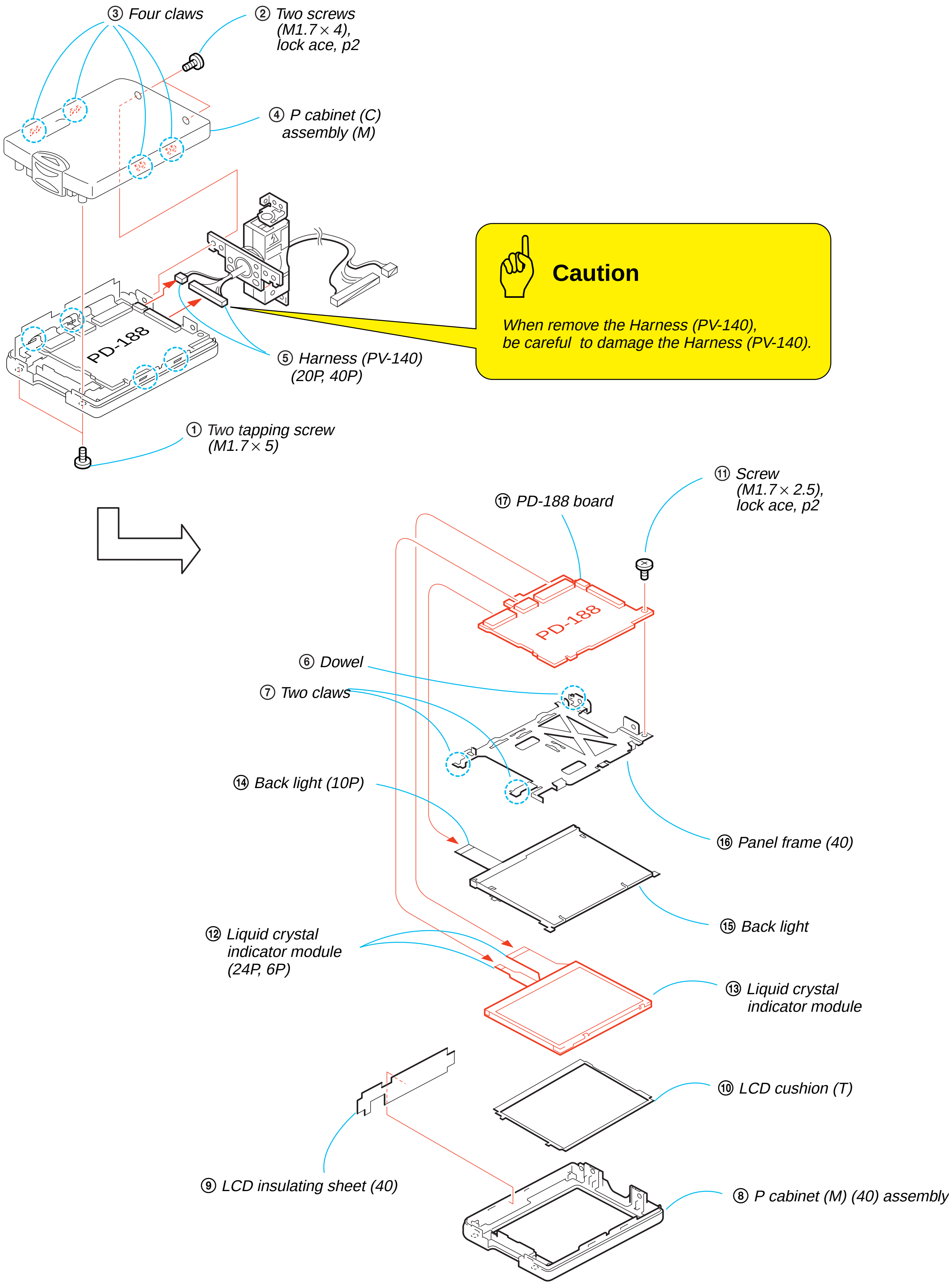
Tape (A)
⑥ LCD section
④ Two tapping screws (M1.7 × 5)
⑤ Cabinet R section
② Harness (PV-140) (4P)
③ FP-626 flexible board (6P)
① Tape (A)

2-7. CK-129 BOARD, CONTROL SWITCH BLOCK (CF-CX4000)



③ Control switch block (CF-CX4000)
② Screw (M1.7 × 2.5), lock ace, p2
① Control switch block (CF-CX4000) (6P)
⑥ Loud speaker (1.6CM)
⑤ Speaker retainer assembly
④ Two tapping screws (M1.7 × 3.5)
⑧ Cabinet (R) assembly
⑩ CK-129 board
⑦ Two tapping screws (M1.7 × 3.5)
⑨ FP-618 flexible board (16P)

2-8. PD-188 BOARD, LCD UNIT

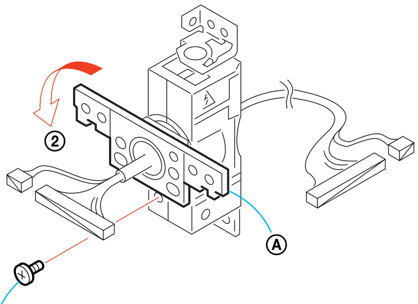


③ Four claws
② Two screws (M1.7 × 4), lock ace, p2
④ P cabinet (C) assembly (M)
PD-188
⑤ Harness (PV-140) (20P, 40P)
① Two tapping screw (M1.7 × 5)
⑰ PD-188 board
⑪ Screw (M1.7 × 2.5), lock ace, p2
PD-188
⑥ Dowel
⑦ Two claws
⑭ Back light (10P)
⑯ Panel frame (40)
⑮ Back light
⑫ Liquid crystal indicator module (24P, 6P)
⑬ Liquid crystal indicator module
⑩ LCD cushion (T)
⑨ LCD insulating sheet (40)
⑧ P cabinet (M) (40) assembly

Caution

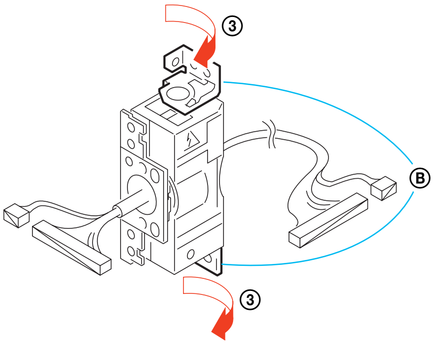
When remove the Harness (PV-140), be careful to damage the Harness (PV-140).

2-9. HINGE (40) ASSEMBLY



① Screw (M1.7 × 4), lock ace, p2

② Rotate to the "A" marked portion counterclockwise by 90 degrees



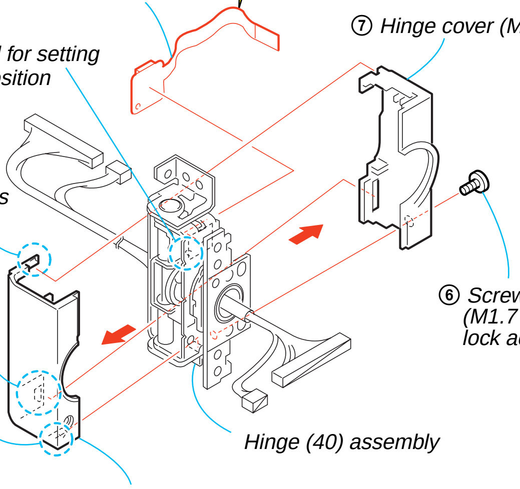
③ Rotate the "B" marked portion counterclockwise by 90 degrees in the direction of the arrow

Caution

Rotation of the LCD panel has limitation due to its hinge in this model. Excessive force to rotate the LCD panel damages the hinge.
(Refer to "Caution"of 2.1 Pcabinet assembly.)

Caution

If the FP-626 flexible board is removed once, the adhesion strength of a double-sided tape decreases. Use the new FP-626 flexible board at the time of an assembly.



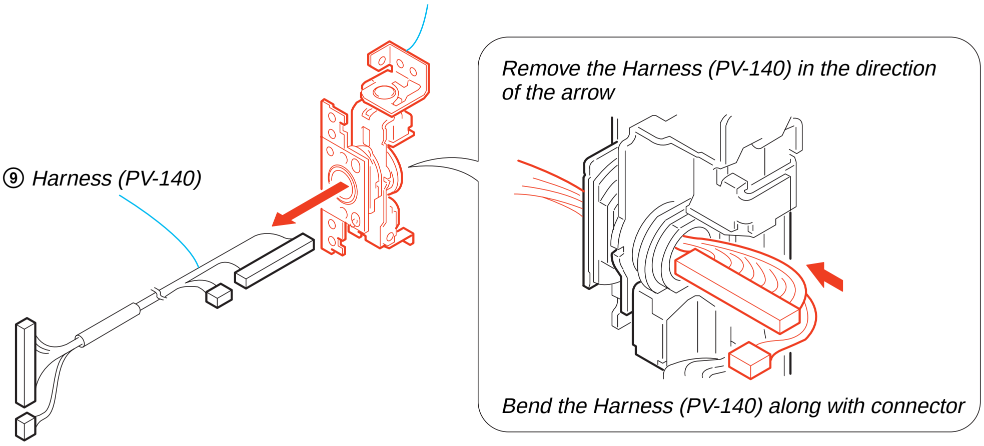
④ Three claws

⑤ Hinge cover (C) (40)

⑥ Screw (M1.7 × 4), lock ace, p2

⑦ Hinge cover (M) (40)

⑧ Remove the FP-626 flexible board that is attached by the doble-sided tape



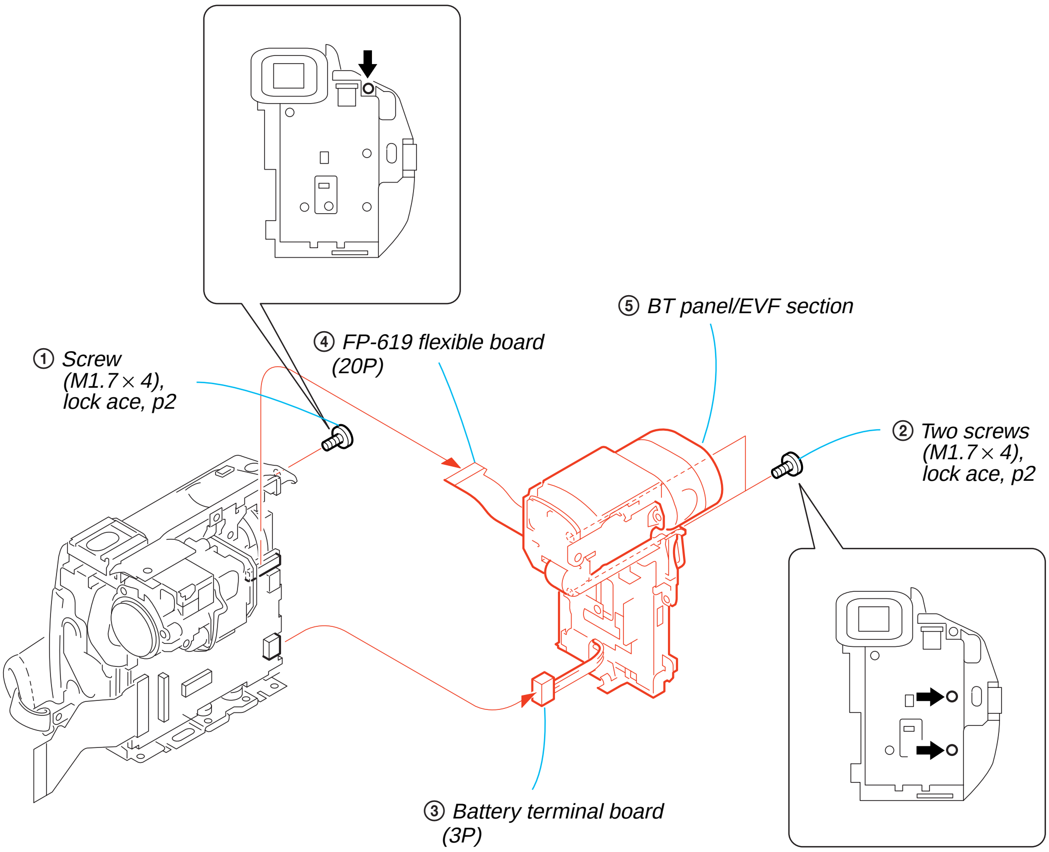
⑨ Harness (PV-140)

⑩ Hinge (40) assembly

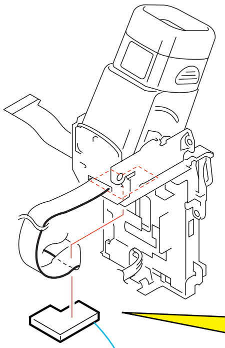
Remove the Harness (PV-140) in the direction of the arrow

Bend the Harness (PV-140) along with connector

2-10. BT PANEL/EVF SECTION


⑤ BT panel/EVF section
④ FP-619 flexible board
(20P)
① Screw
(M1.7 × 4),
lock ace, p2
② Two screws
(M1.7 × 4),
lock ace, p2
③ Battery terminal board
(3P)

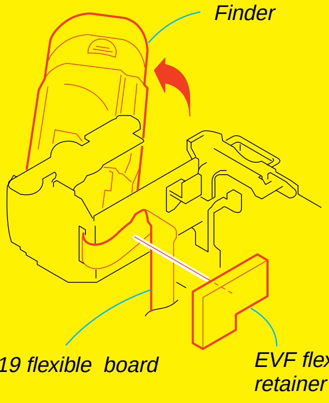
2-11. LB-085 BOARD (REMOVING OF THE EVF)-1



① EVF flexible retainer

Caution

When installing the EVF flexible retainer, please be sure to install it while the viewfinder is kept pushed up to attach.

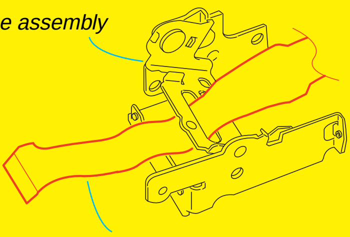


Finder
FP-619 flexible board
EVF flexible retainer

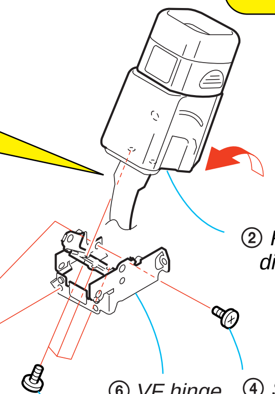
When installing the EVF flexible retainer, fold the FP-619 flexible board as shown in the illustration.

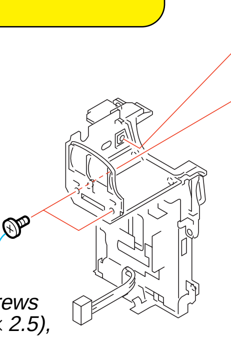
Caution

When installing, pass the FP-619 flexible board through the hole of the VF hinge assembly as shown in the illustration.



VF hinge assembly
FP-619 flexible board





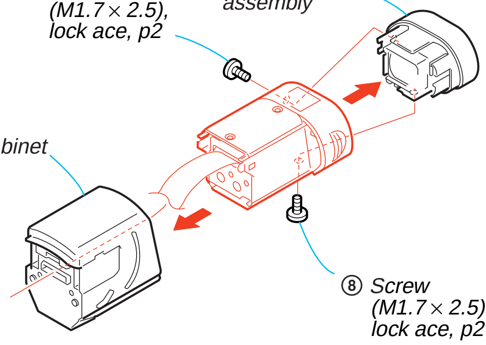
② Raise the Finder in the direction of the arrow

③ Two screws (M1.7 × 2.5), lock ace, p2

④ Screw (M1.7 × 2.5), lock ace, p2

⑤ Three screws (M1.7 × 4), lock ace, p2

⑥ VF hinge assembly



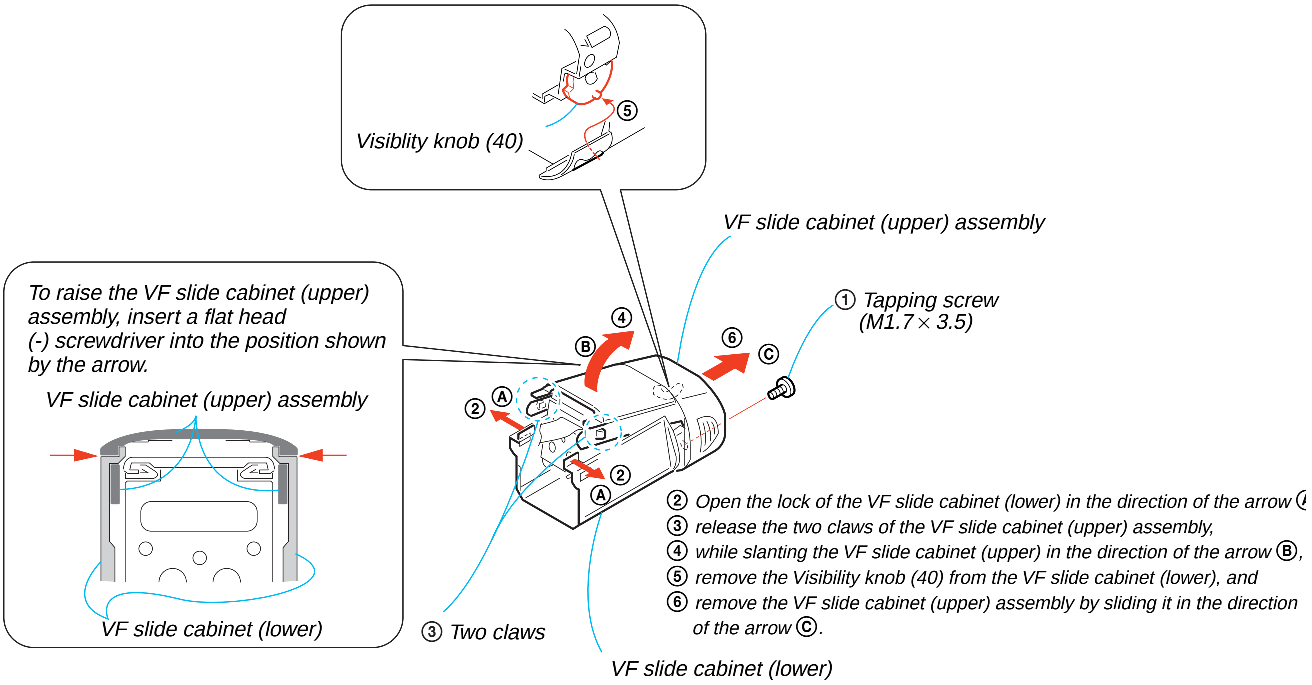
⑦ VF tilt cabinet

⑧ Screw (M1.7 × 2.5), lock ace, p2

⑨ Screw (M1.7 × 2.5), lock ace, p2

⑩ Eye cup (40) assembly

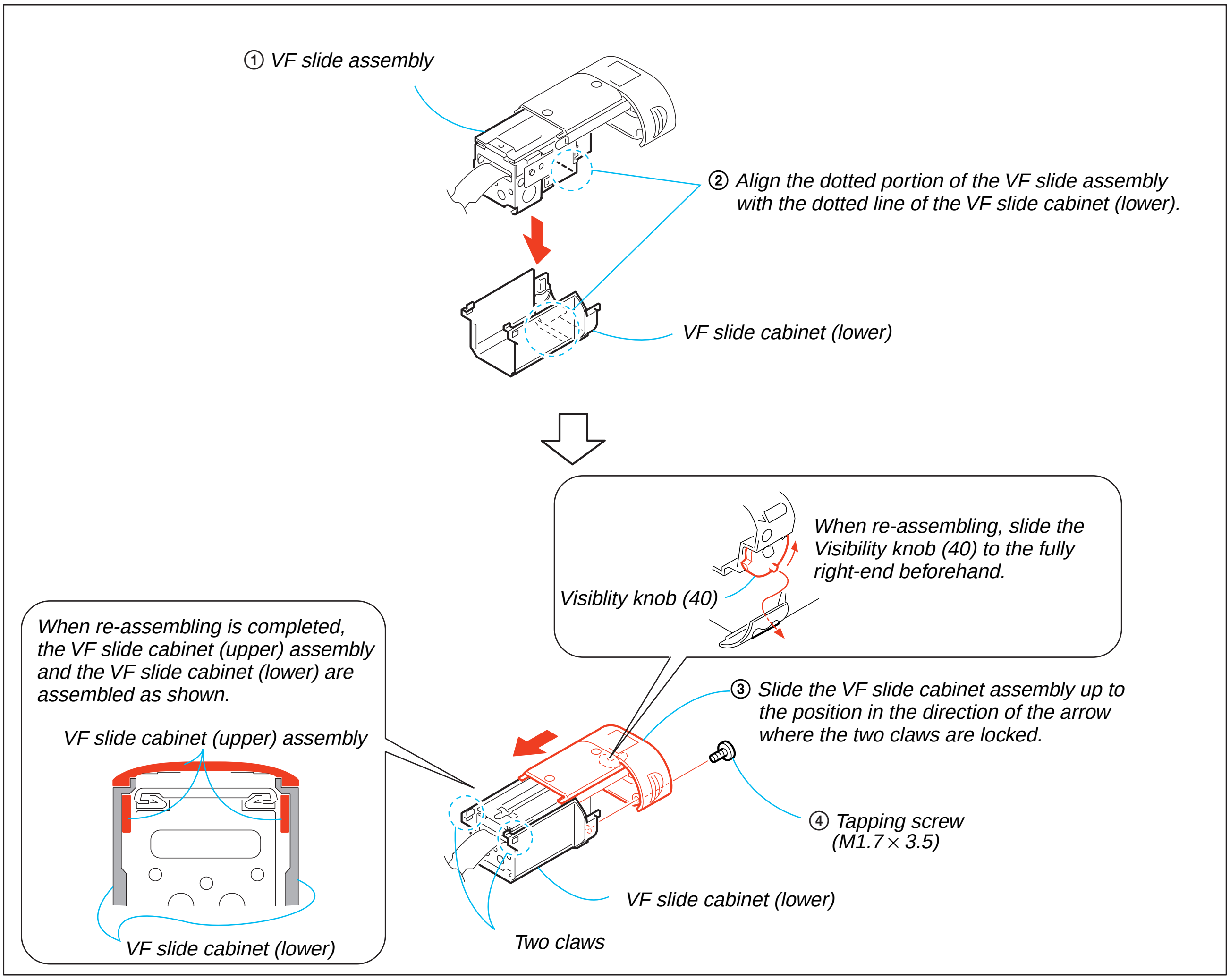
2-12. LB-085 BOARD (REMOVING OF THE EVF)-2


Visiblity knob (40)
⑤
VF slide cabinet (upper) assembly
① Tapping screw
(M1.7 × 3.5)
④
Ⓑ
⑥
Ⓒ
② Ⓐ
② Ⓐ
VF slide cabinet (upper) assembly
VF slide cabinet (lower)
③ Two claws
VF slide cabinet (lower)

To raise the VF slide cabinet (upper) assembly, insert a flat head (-) screwdriver into the position shown by the arrow.

② Open the lock of the VF slide cabinet (lower) in the direction of the arrow
③ release the two claws of the VF slide cabinet (upper) assembly,
④ while slanting the VF slide cabinet (upper) in the direction of the arrow Ⓑ,
⑤ remove the Visibility knob (40) from the VF slide cabinet (lower), and
⑥ remove the VF slide cabinet (upper) assembly by sliding it in the direction of the arrow Ⓒ.

RE-ASSEMBLING THE VF SLIDE CABINET


① VF slide assembly
VF slide cabinet (lower)
Visiblity knob (40)
VF slide cabinet (upper) assembly
VF slide cabinet (lower)
④ Tapping screw
(M1.7 × 3.5)
VF slide cabinet (lower)
Two claws

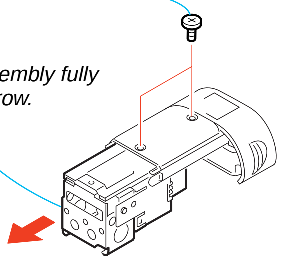
② Align the dotted portion of the VF slide assembly with the dotted line of the VF slide cabinet (lower).

When re-assembling, slide the Visibility knob (40) to the fully right-end beforehand.

When re-assembling is completed, the VF slide cabinet (upper) assembly and the VF slide cabinet (lower) are assembled as shown.

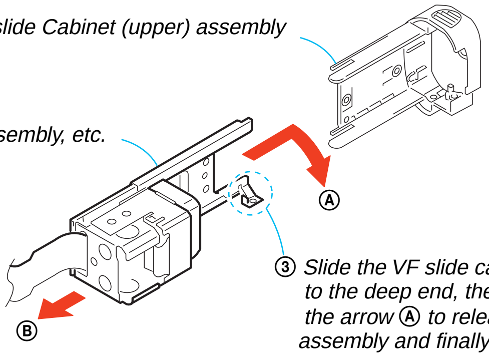
③ Slide the VF slide cabinet assembly up to the position in the direction of the arrow where the two claws are locked.

2-13. LB-085 BOARD (REMOVING OF THE EVF)-3

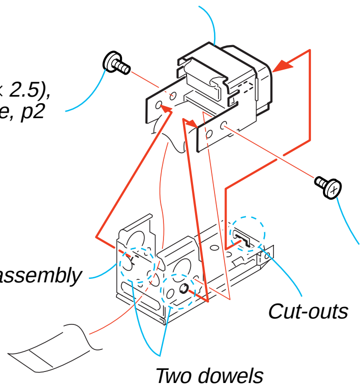


① Two screws
(M1.7 × 2.5),
lock ace, p2

② Pull out the VF slide assembly fully
in the direction of the arrow.


VF slide Cabinet (upper) assembly
VF slide assembly, etc.
Ⓐ
Ⓑ

③ Slide the VF slide cabinet assembly and others once
to the deep end, then slant them in the direction of
the arrow Ⓐ to release the claw portion of the VF slide
assembly and finally pull them out in the direction of the
arrow Ⓑ and remove them.


VF slide assembly
Cut-outs
Two dowels

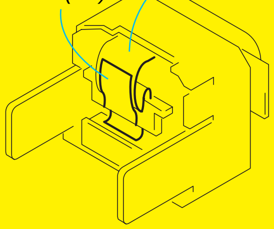
④ Screw
(M1.7 × 2.5),
lock ace, p2

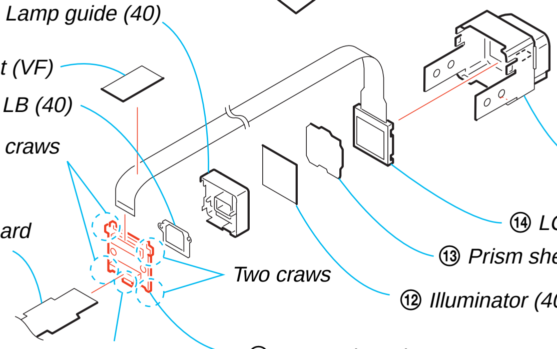
⑤ Screw
(M1.7 × 2.5),
lock ace, p2

⑥ Remove the LCD cabinet assembly and others from the two dowels and
cut-outs of the VF slide assembly.

Caution

When attach the Sheet (VF),
fold the FP-619 flexible board
as shown in the illustration.


Sheet (VF)
FP-619 flexible
board


Two craws
Two craws
Projected part

⑦ Sheet (VF)

⑧ FP-619 flexible board

⑨ LB-085 board

⑩ Cushion LB (40)

⑪ Lamp guide (40)

⑫ Illuminator (40)

⑬ Prism sheet (40)

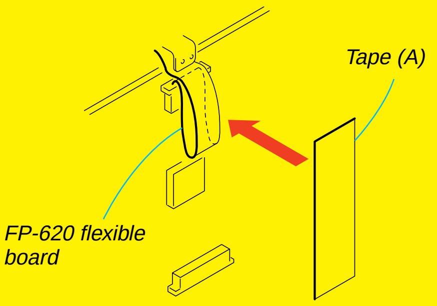
⑭ LCX032AN-5

⑮ LCD cabinet assembly

2-14. VA-118 BOARD, LENS SECTION

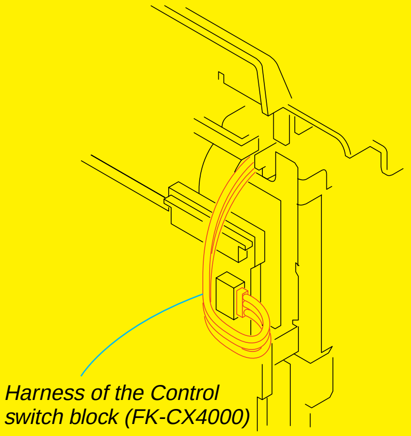
Caution

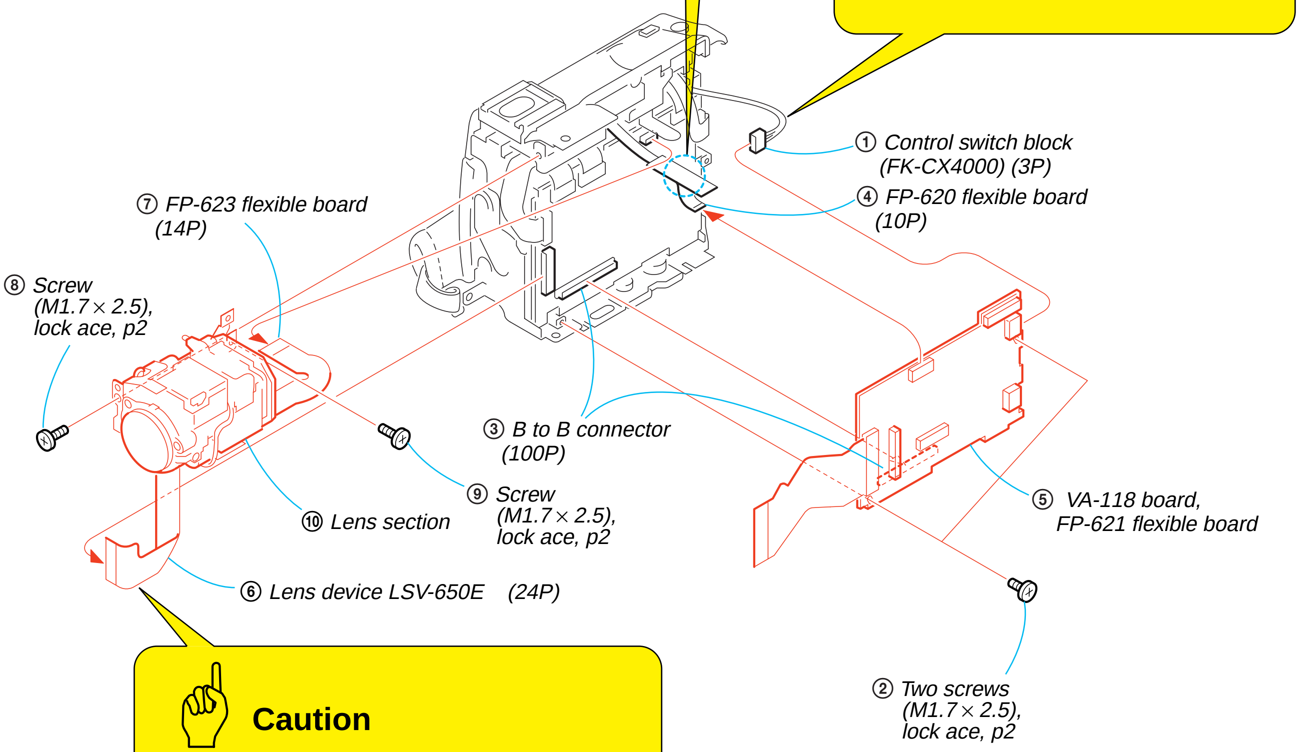
When attach the Tape (A), fold the FP-620 flexible board as shown in the illustration.


Tape (A)
FP-620 flexible board

Caution

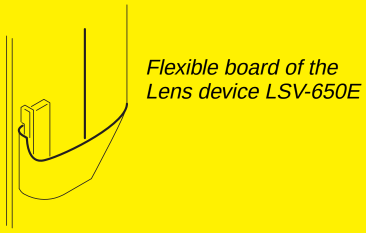
Fold the harness of the control switch block (FK-CX4000) toward the board as shown in the illustration.


Harness of the Control switch block (FK-CX4000)

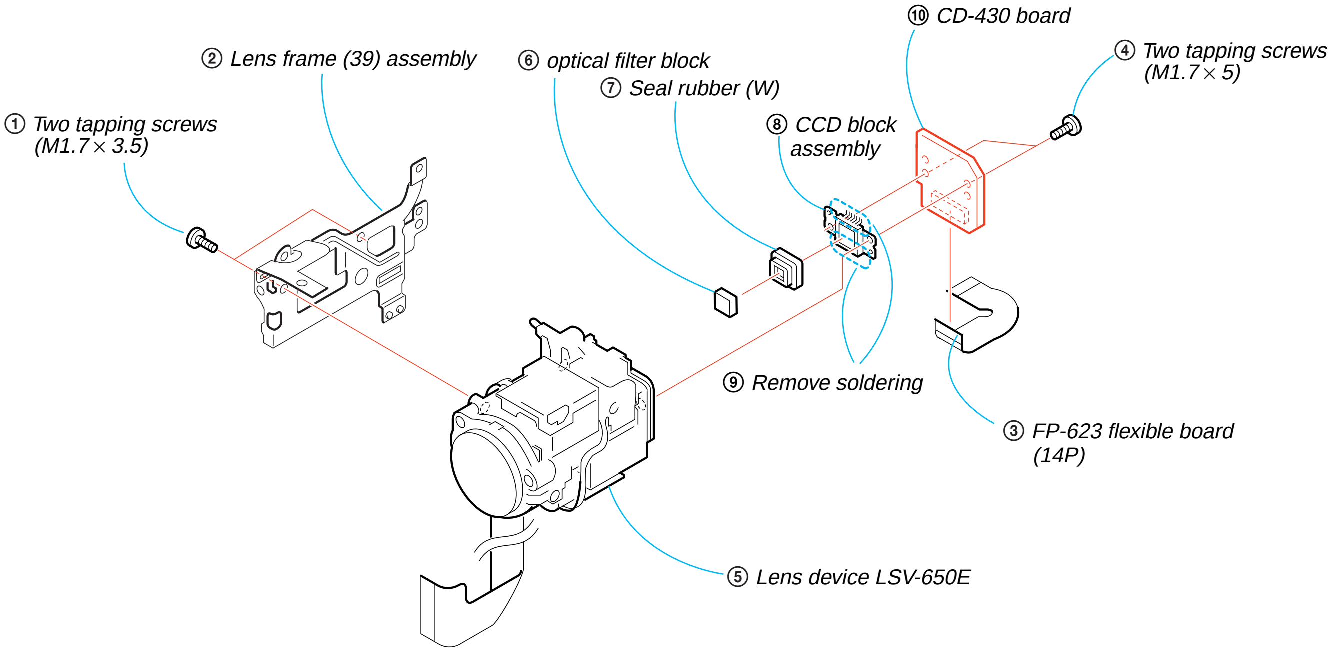

① Control switch block (FK-CX4000) (3P)
④ FP-620 flexible board (10P)
⑦ FP-623 flexible board (14P)
⑧ Screw (M1.7 × 2.5), lock ace, p2
③ B to B connector (100P)
⑨ Screw (M1.7 × 2.5), lock ace, p2
⑩ Lens section
⑤ VA-118 board, FP-621 flexible board
⑥ Lens device LSV-650E (24P)
② Two screws (M1.7 × 2.5), lock ace, p2

Caution

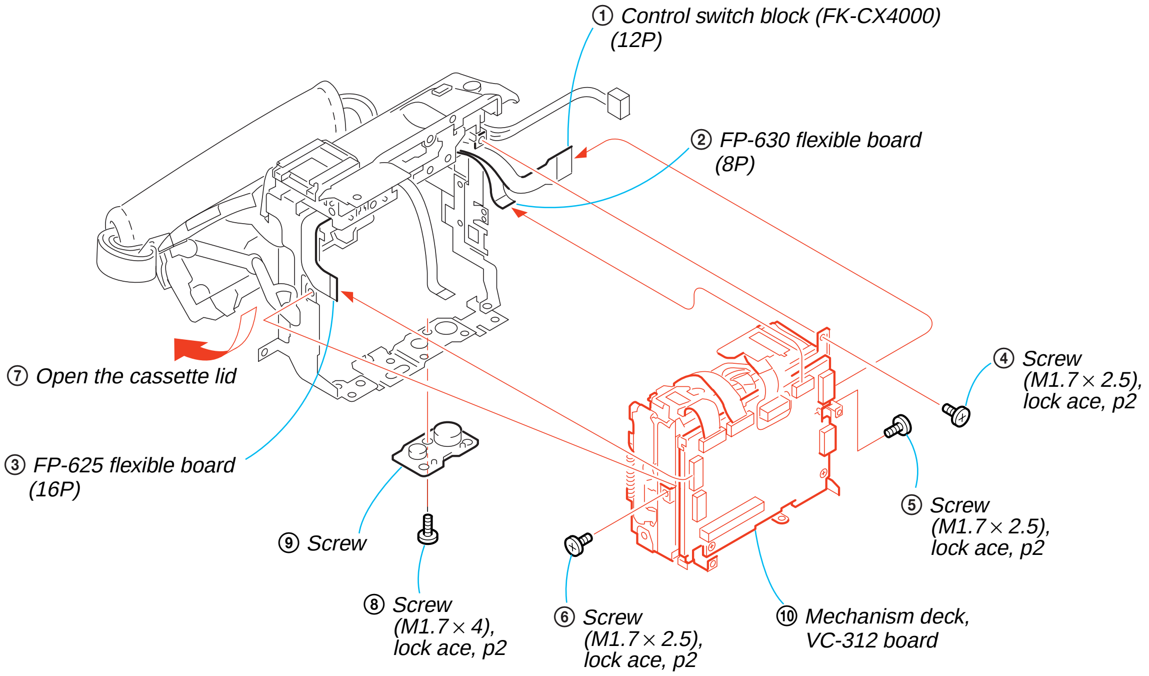
When installing, the flexible board of the Lens device 650E as shown in the illustration.


Flexible board of the Lens device LSV-650E

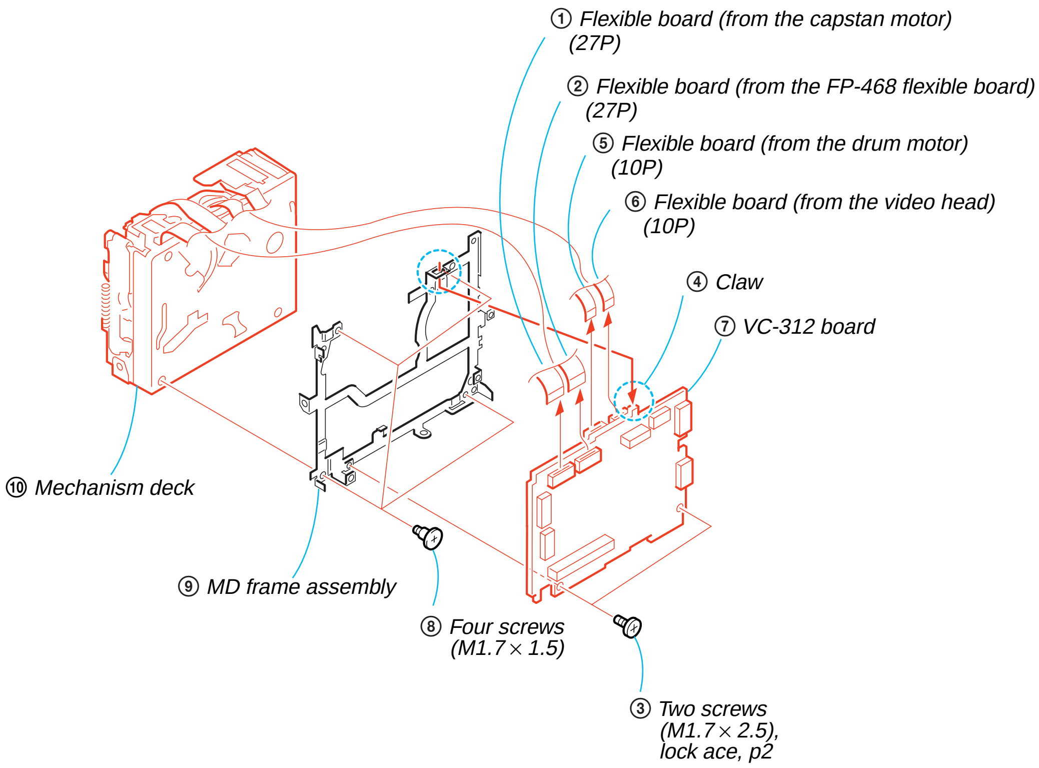
2-15. CD-430 BOARD


⑩ CD-430 board
② Lens frame (39) assembly
⑥ optical filter block
④ Two tapping screws
(M1.7 × 5)
⑦ Seal rubber (W)
① Two tapping screws
(M1.7 × 3.5)
⑧ CCD block
assembly
⑨ Remove soldering
③ FP-623 flexible board
(14P)
⑤ Lens device LSV-650E

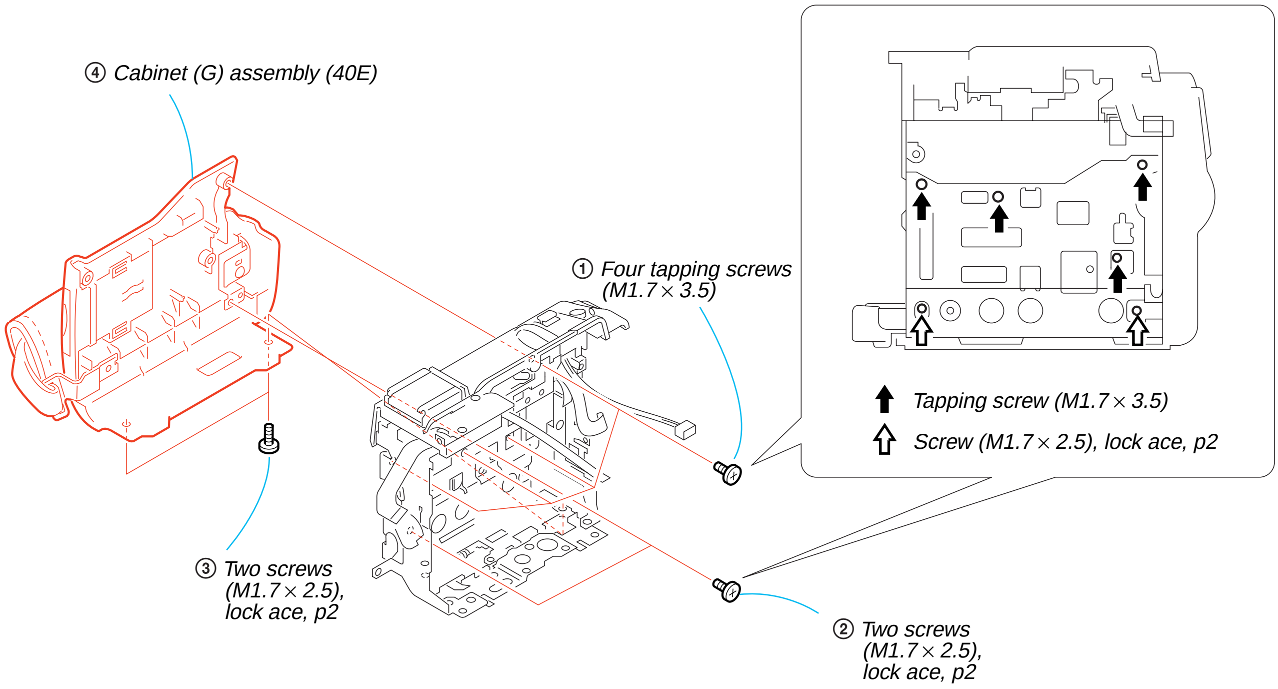
2-16. MECHANISM DECK, VC-312 BOARD (1)


① Control switch block (FK-CX4000)
(12P)
② FP-630 flexible board
(8P)
④ Screw
(M1.7 × 2.5),
lock ace, p2
⑦ Open the cassette lid
③ FP-625 flexible board
(16P)
⑤ Screw
(M1.7 × 2.5),
lock ace, p2
⑨ Screw
⑧ Screw
(M1.7 × 4),
lock ace, p2
⑥ Screw
(M1.7 × 2.5),
lock ace, p2
⑩ Mechanism deck,
VC-312 board

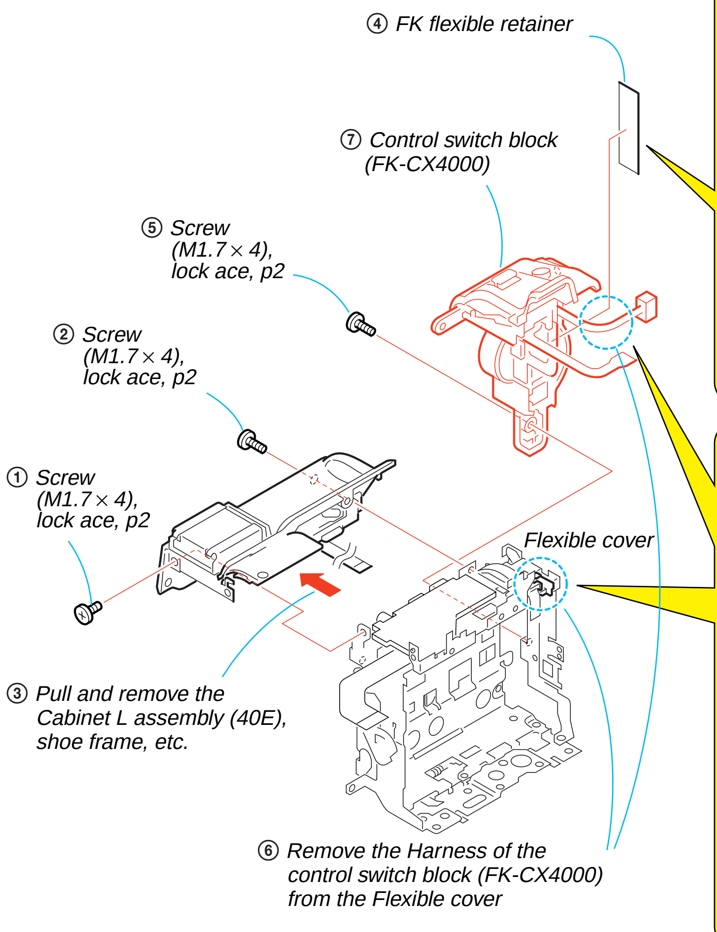
2-17. MECHANISM DECK, VC-312 BOARD (2)


① Flexible board (from the capstan motor)
(27P)
② Flexible board (from the FP-468 flexible board)
(27P)
⑤ Flexible board (from the drum motor)
(10P)
⑥ Flexible board (from the video head)
(10P)
④ Claw
⑦ VC-312 board
⑩ Mechanism deck
⑨ MD frame assembly
⑧ Four screws
(M1.7 × 1.5)
③ Two screws
(M1.7 × 2.5),
lock ace, p2

2-18. CABINET (G) ASSEMBLY (40E)

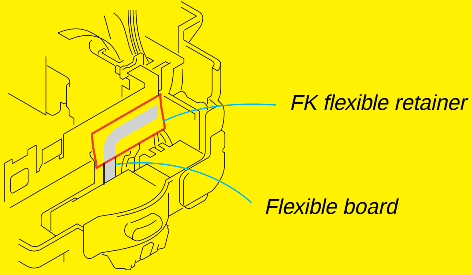

④ Cabinet (G) assembly (40E)
① Four tapping screws
(M1.7 × 3.5)
③ Two screws
(M1.7 × 2.5),
lock ace, p2
② Two screws
(M1.7 × 2.5),
lock ace, p2
Tapping screw (M1.7 × 3.5)
Screw (M1.7 × 2.5), lock ace, p2

2-19. CONTROL SWITCH BLOCK (FK-CX4000)


④ FK flexible retainer
⑦ Control switch block
(FK-CX4000)
⑤ Screw
(M1.7 × 4),
lock ace, p2
② Screw
(M1.7 × 4),
lock ace, p2
① Screw
(M1.7 × 4),
lock ace, p2
Flexible cover
③ Pull and remove the
Cabinet L assembly (40E),
shoe frame, etc.
⑥ Remove the Harness of the
control switch block (FK-CX4000)
from the Flexible cover

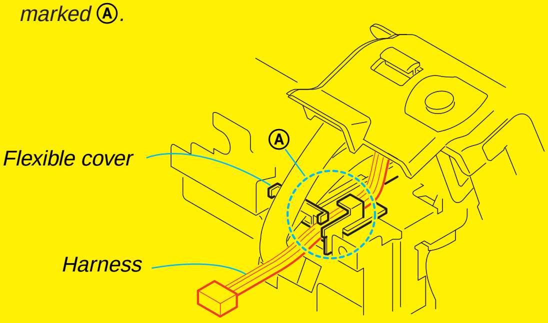
Caution

When installing, fix the flexible board of the Control switch block (FK-CX4000) with the FK flexible retainer as shown in the illustration.

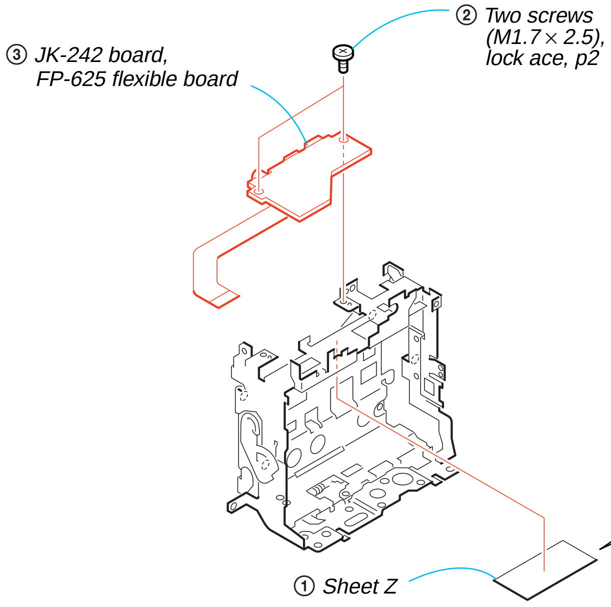

FK flexible retainer
Flexible board

Caution

When installing, pass harness of the Control switch block (FK-CX4000) the through the Flexible cover by the marked Ⓐ.

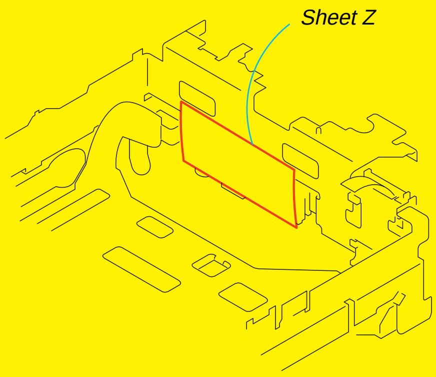

Flexible cover
Ⓐ
Harness

2-20. JK-242 BOARD


③ JK-242 board,
FP-625 flexible board
② Two screws
(M1.7 × 2.5),
lock ace, p2
① Sheet Z

Caution

Install the Sheet Z as shown in the illustration.



[SERVICE POSITION TO CHECK THE VTR SECTION]

Connection to Check the VTR Section

To check the VTR section, set the VTR to the “Forced VTR power ON” mode.
Operate the VTR functions using the adjustment remote commander (with the HOLD switch set in the OFF position).

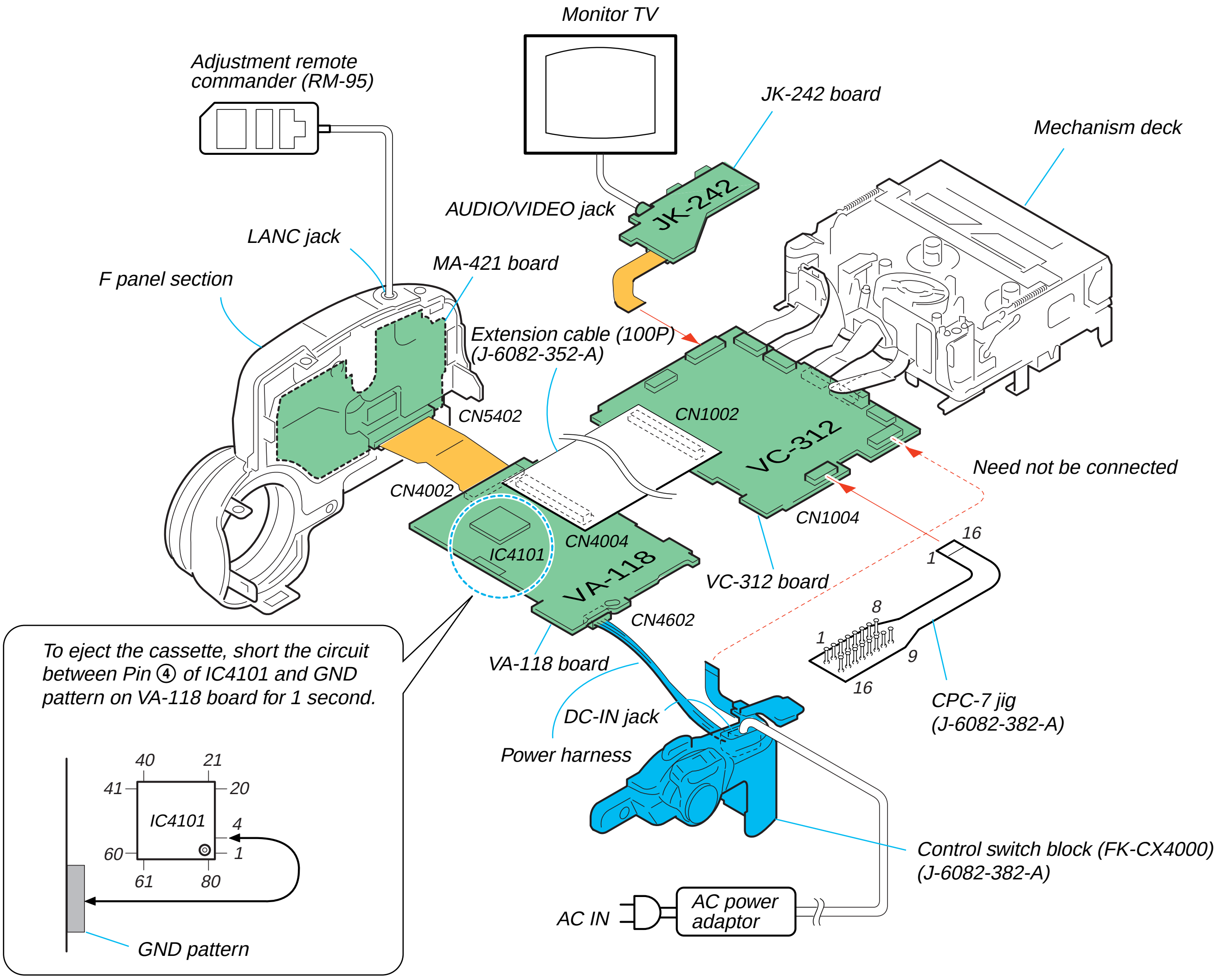
Setting the Forced VTR Power ON mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 00.
3) Select page: D, address: 10, set data: 02, and press the PAUSE button of the adjustment remote commander.

Exiting the Forced VTR Power ON mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 00.
3) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 00.

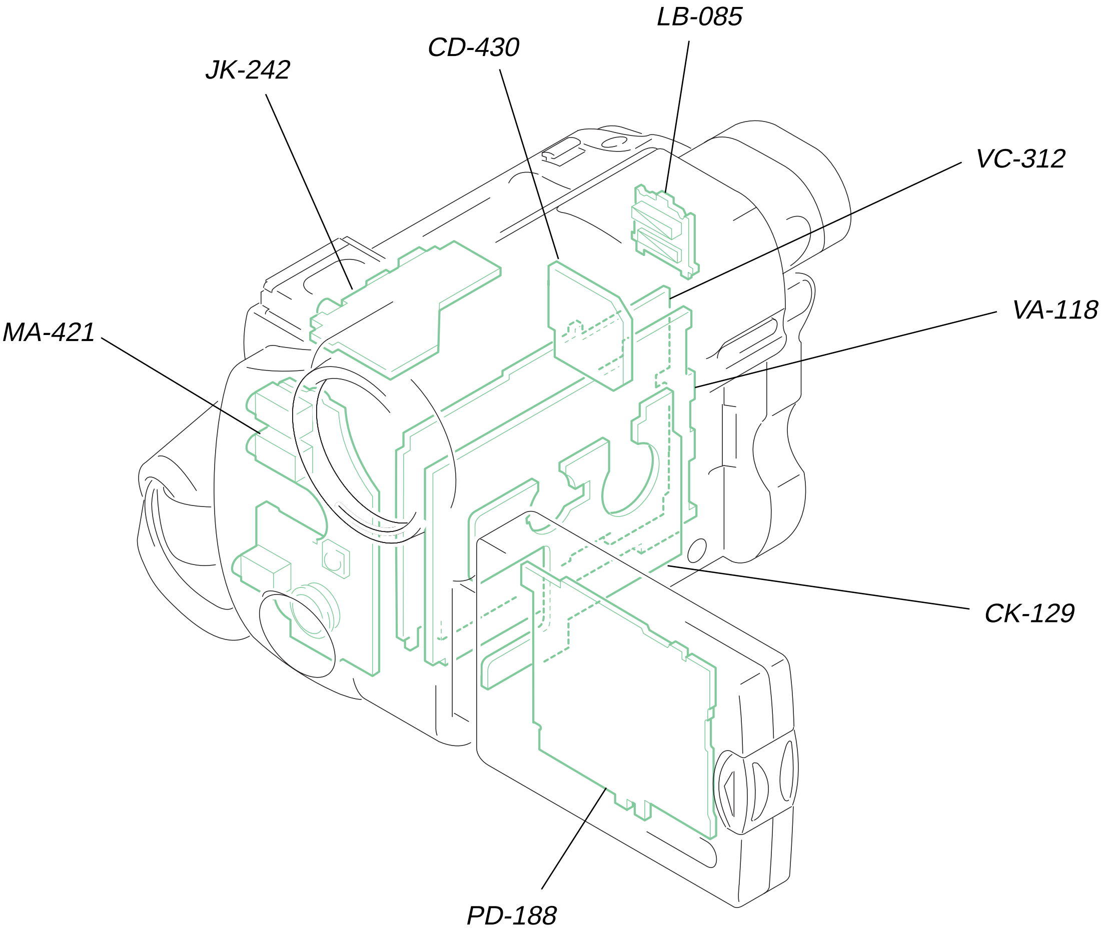
(To eject the cassette, short the circuit between Pin ④ of IC4101 and GND pattern on VA-118 board for 1 second.)


Monitor TV
Adjustment remote commander (RM-95)
JK-242 board
Mechanism deck
JK-242
AUDIO/VIDEO jack
LANC jack
MA-421 board
F panel section
Extension cable (100P) (J-6082-352-A)
CN5402
CN1002
VC-312
Need not be connected
CN4002
CN1004
IC4101
CN4004
VA-118
16
1
VC-312 board
8
CN4602
1
9
16
VA-118 board
CPC-7 jig (J-6082-382-A)
DC-IN jack
Power harness
Control switch block (FK-CX4000) (J-6082-382-A)
AC IN
AC power adaptor
To eject the cassette, short the circuit between Pin ④ of IC4101 and GND pattern on VA-118 board for 1 second.
40
21
41
20
IC4101
4
60
1
61
80
GND pattern

PROCEDURE OF REMOVING THE MECHANISM DECK.
(VTR CHECK SERVICE POSITION)

① 2-2. CABINET (R) COVER (39E) ASSEMBLY .... (page 2-4)
② 2-3. F PANEL SECTION .... (page 2-5)
③ 2-5. CABINET (R) SECTION ....(page 2-7)
④ 2-10. BT PANEL/EVF SECTION .... (page 2-11)
⑤ 2-14. VA-118 BOARD, LENS SECTION .... (page 2-15)
⑥ 2-16. MECHANISM DECK, VC-312 BOARD (1) .... (page 2-16)
⑦ 2-17. MECHANISM DECK, VC-312 BOARD (2) .... (page 2-17)
⑧ 2-18. CABINET (G) ASSEMBLY (40E) .... (page 2-17)
⑨ 2-19. CONTROL SWITCH BLOCK (FK-CX4000)....(page 2-18)
⑩ 2-20. JK-242 BOARD .... (page 2-18)

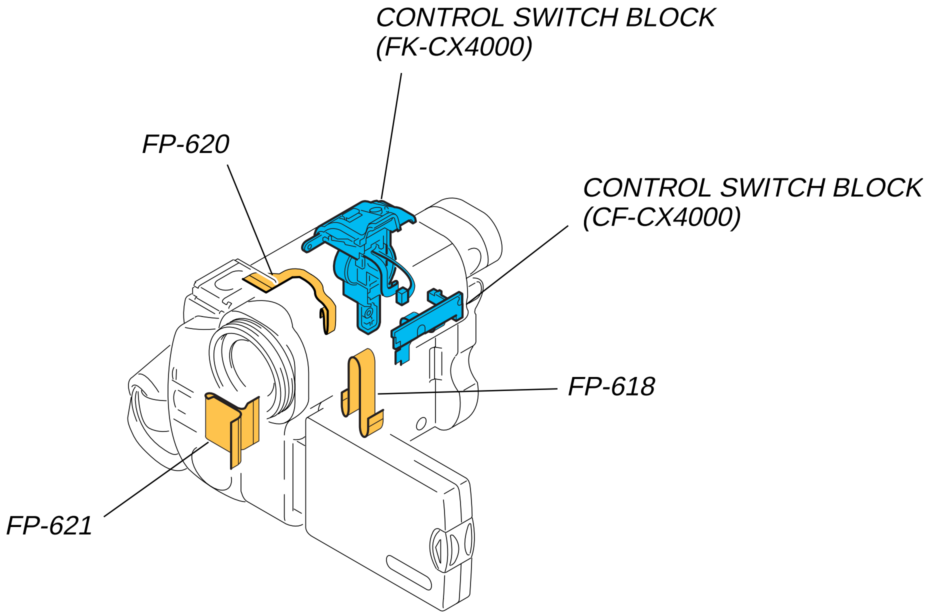
2-21. CIRCUIT BOARDS LOCATION

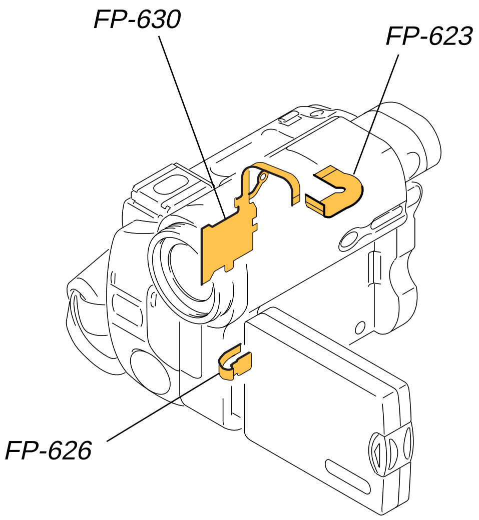

LB-085
CD-430
JK-242
VC-312
VA-118
MA-421
CK-129
PD-188

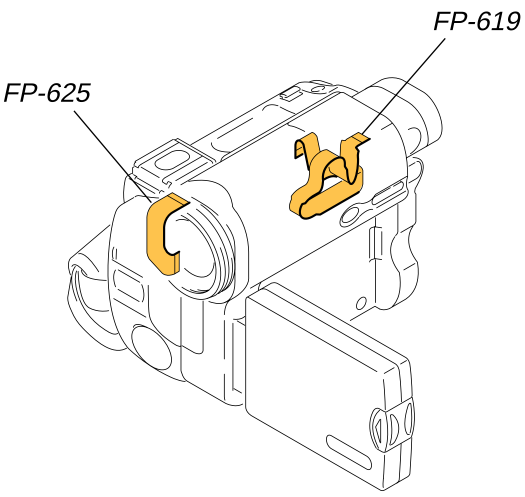
NAME	FUNCTION
CD-430	CCD IMAGER
CK-129	FUNCTION SWITCH
JK-242	RELAY
LB-085	EVF, BACKLIGHT
MA-421	MIC AMP, Y/P SENSOR, V/A IN/OUT
PD-188	RGB DRIVE, TIMING GENE, BACKLIGHT
VA-118	RGB DRIVE, HI CONTROL, Y/P SENSOR AMP, POWER IN, CHARGE, CONNECTOR
VC-312	CAMERA A/D CONV., TIMING GENERATOR, LENS DRIVE, MPEG/DV STILL PROCESSOR, SERVO, AUDIO, CAMERA/MECHA/HI CONTROL, CONNECTOR

2-22. FLEXIBLE BOARDS LOCATION

The flexible boards contained in the mechanism deck and that in the lens device are not shown.


CONTROL SWITCH BLOCK
(FK-CX4000)
FP-620
CONTROL SWITCH BLOCK
(CF-CX4000)
FP-618
FP-621

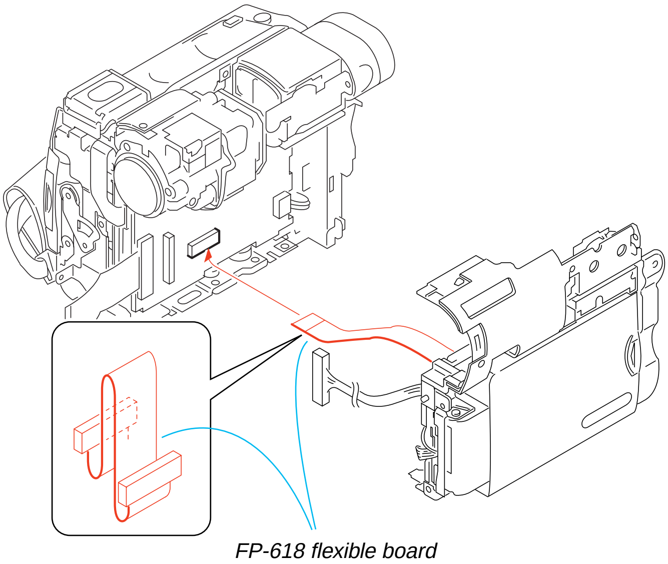

FP-630
FP-623
FP-626

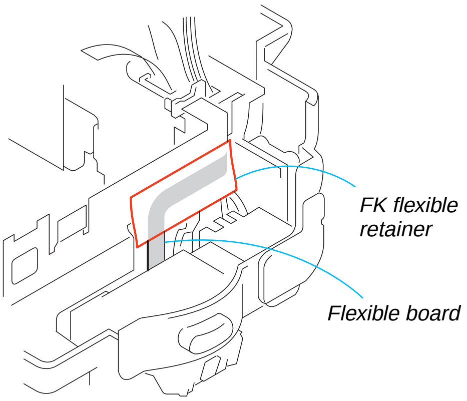

FP-619
FP-625

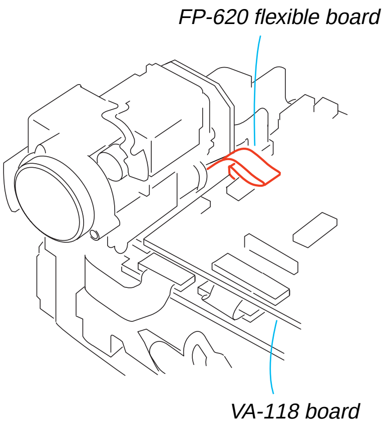
HELP

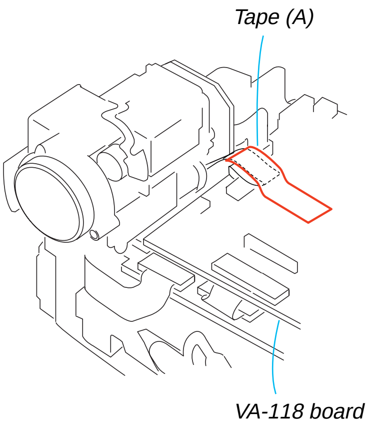
Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

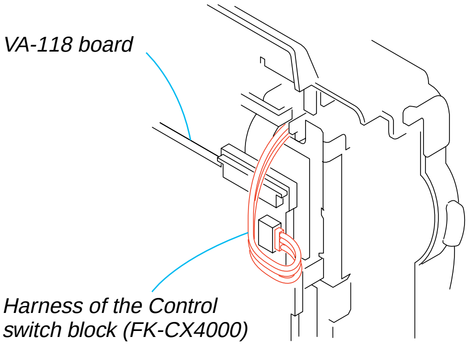
OVERALL SECTION -1

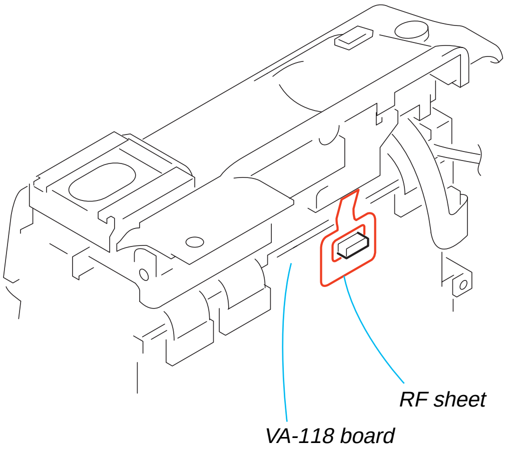

FP-618 flexible board


FK flexible retainer
Flexible board

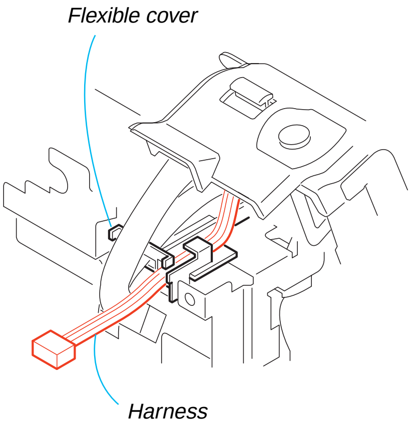

FP-620 flexible board
VA-118 board


Tape (A)
VA-118 board

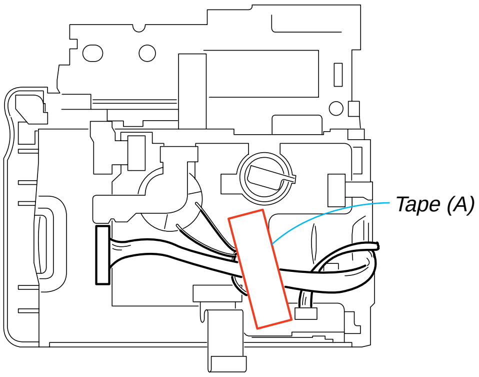

VA-118 board
Harness of the Control switch block (FK-CX4000)


RF sheet
VA-118 board

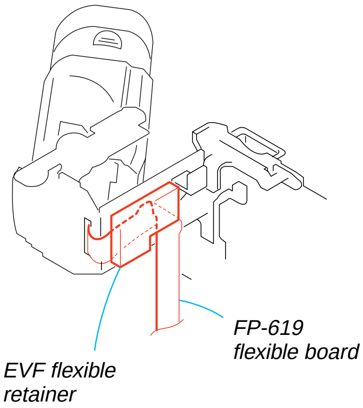
OVERALL SECTION -2

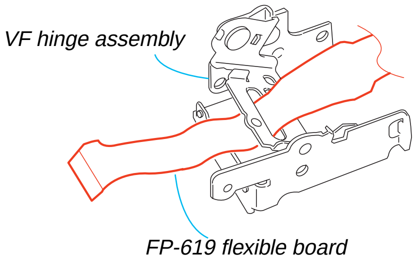

Flexible cover
Harness

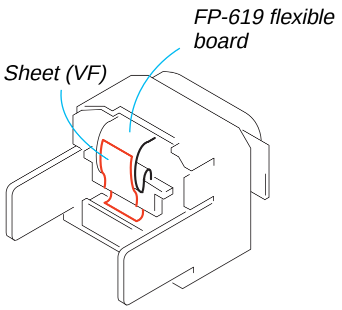
CABINET R SECTION

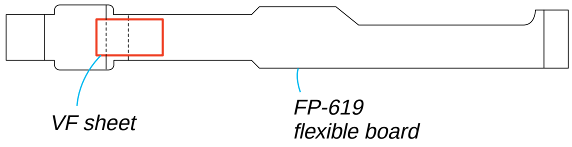


BT PANEL/EVF SECTION

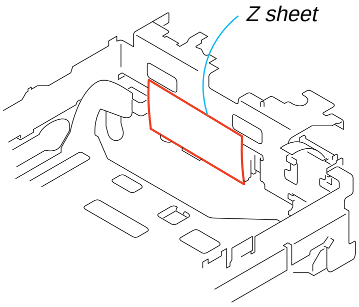

FP-619
flexible board
EVF flexible
retainer

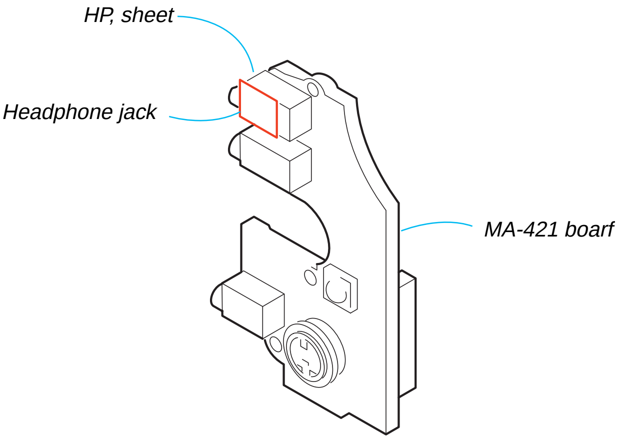

VF hinge assembly
FP-619 flexible board


FP-619 flexible
board
Sheet (VF)


VF sheet
FP-619
flexible board

CABINET L SECTION




HP, sheet
Headphone jack
MA-421 boarf

COVER

3. BLOCK DIAGRAMS

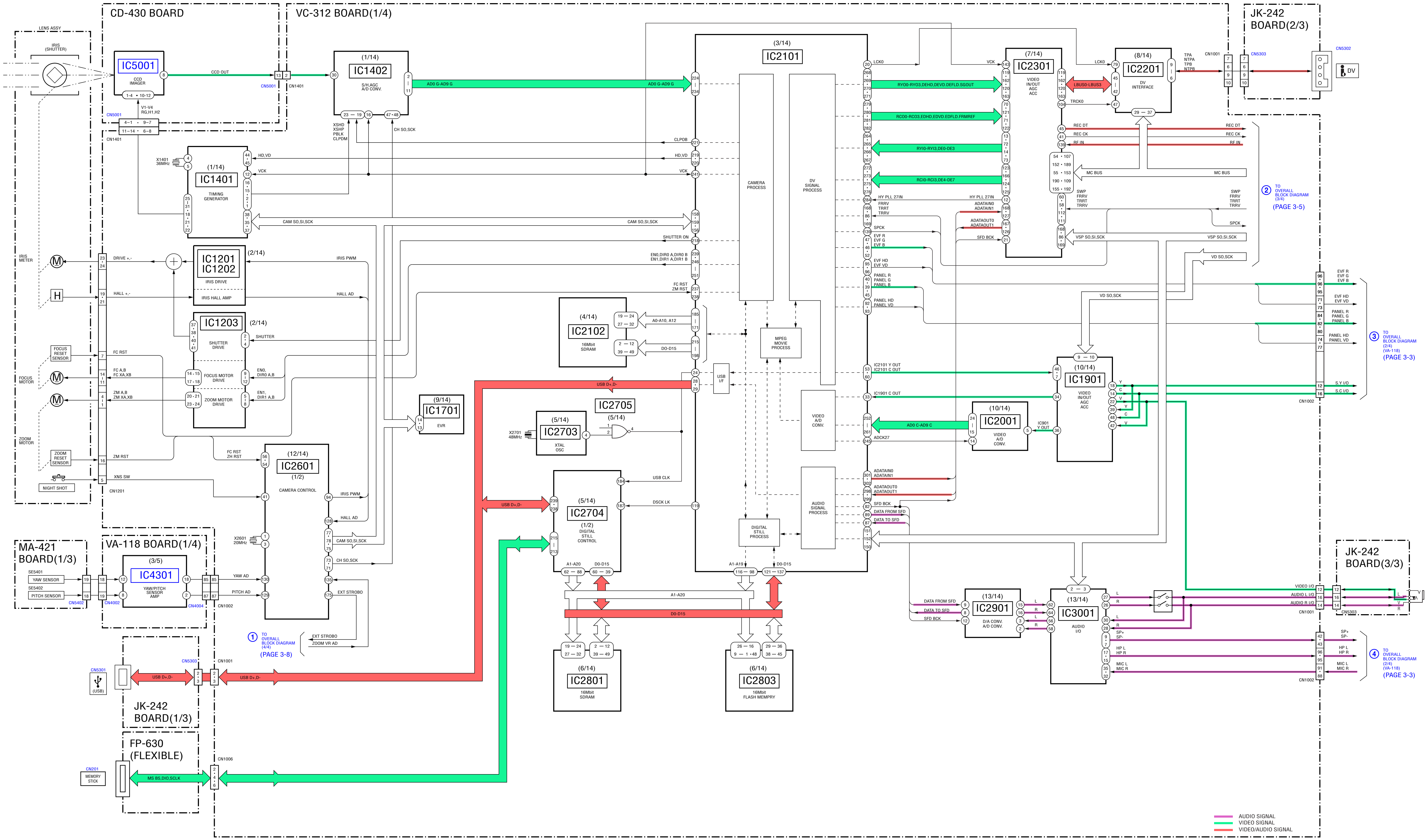
Link

- OVERALL BLOCK DIAGRAM (1/4)
- OVERALL BLOCK DIAGRAM (2/4)
- OVERALL BLOCK DIAGRAM (3/4)
- OVERALL BLOCK DIAGRAM (4/4)
- POWER BLOCK DIAGRAM (1/2)
- POWER BLOCK DIAGRAM (2/2)

SECTION 3
BLOCK DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM (1/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

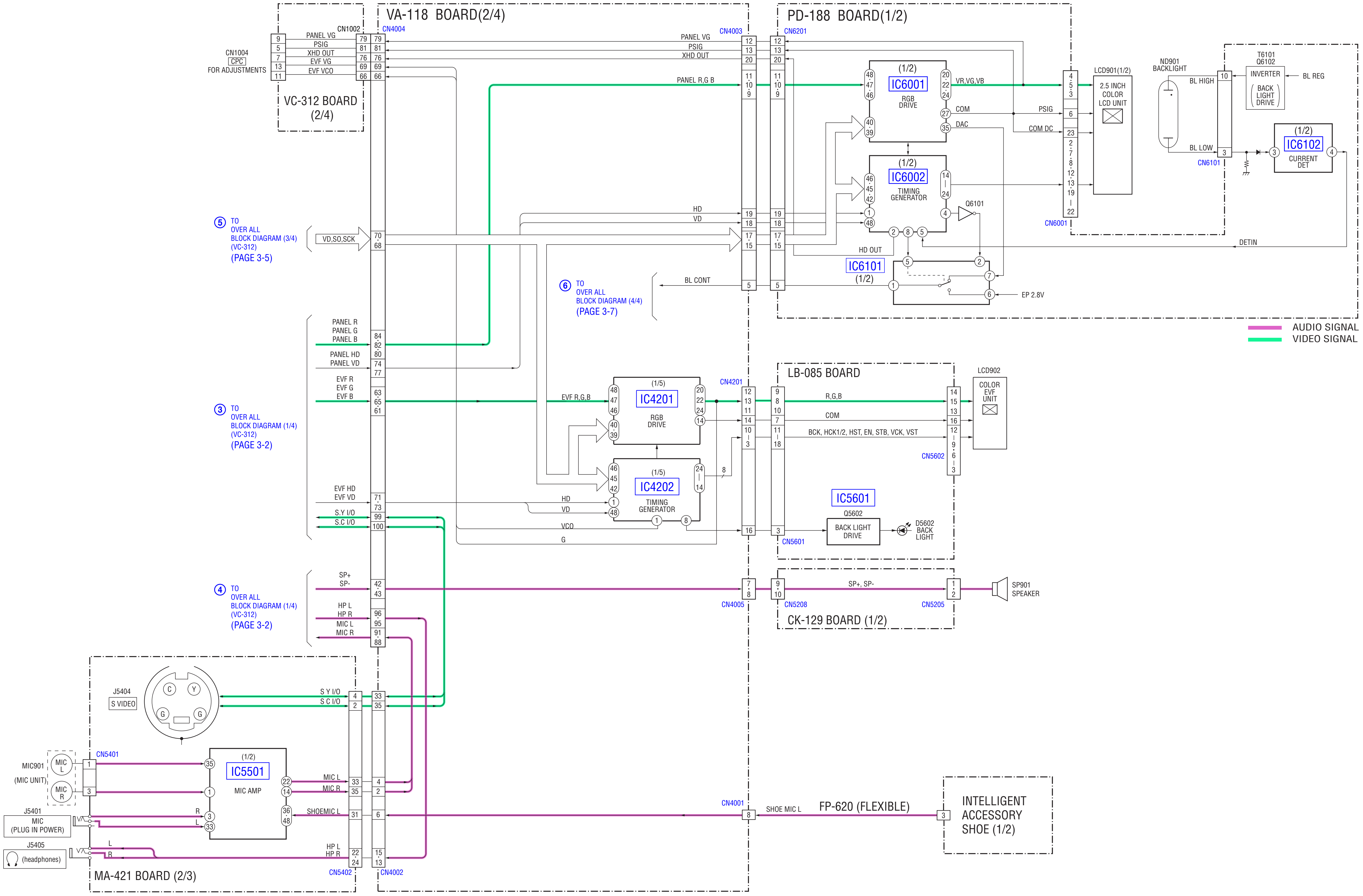

CD-430 BOARD
VC-312 BOARD(1/4)
JK-242 BOARD(2/3)
LENS ASSY
IRIS (SHUTTER)
IC5001 CCD IMAGER
CCD OUT
CN5001
CN1401
(1/14) IC1402 S/H,AGC A/D CONV.
XSHD XSHP PBLK CLPDM
CH SO,SCK
AD0 G-AD9 G
(3/14) IC2101
CAMERA PROCESS
DV SIGNAL PROCESS
MPEG MOVIE PROCESS
VIDEO A/D CONV.
AUDIO SIGNAL PROCESS
DIGITAL STILL PROCESS
USB I/F
(7/14) IC2301 VIDEO IN/OUT AGC ACC
(8/14) IC2201 DV INTERFACE
RY00-RY03,EDHD,EDVD,EDFLD,SGOUT
RC00-RC03,EDHD,EDVD,EDFLD,FRMREF
RYI0-RYI3,DE0-DE3
RCI0-RCI3,DE4-DE7
LBUS0-LBUS3
TPA NTPA TPB NTPB
CN1001
CN5303
CN5302
DV
REC DT
REC CK
RF IN
MC BUS
SWP FRRV TRRT TRRV
SPCK
VSP SO,SI,SCK
VD SO,SCK
X1401 36MHz
(1/14) IC1401 TIMING GENERATOR
HD,VD
VCK
CLPOB
CAM SO,SI,SCK
SHUTTER ON
IRIS METER
IC1201 IC1202 (2/14) IRIS DRIVE
IRIS HALL AMP
DRIVE +,-
HALL +,-
IRIS PWM
HALL AD
IC1203 (2/14) SHUTTER DRIVE
FOCUS MOTOR DRIVE
ZOOM MOTOR DRIVE
FOCUS RESET SENSOR
FOCUS MOTOR
ZOOM MOTOR
ZOOM RESET SENSOR
NIGHT SHOT
FC RST
FC A,B FC XA,XB
ZM A,B ZM XA,XB
ZM RST
XNS SW
CN1201
EN0, DIR0 A,B
EN1, DIR1 A,B
(4/14) IC2102 16Mbit SDRAM
A0-A10, A12
D0-D15
(9/14) IC1701 EVR
(5/14) IC2705
(5/14) IC2703 XTAL OSC
X2701 48MHz
(12/14) IC2601 (1/2) CAMERA CONTROL
FC RST ZH RST
X2601 20MHz
CH SO,SCK
EXT STROBO
ZOOM VR AD
YAW AD
PITCH AD
(5/14) IC2704 (1/2) DIGITAL STILL CONTROL
USB CLK
DSCK LK
USB D+,D-
A1-A20
D0-D15
(6/14) IC2801 16Mbit SDRAM
(6/14) IC2803 16Mbit FLASH MEMPRY
(10/14) IC1901 VIDEO IN/OUT AGC ACC
IC2101 Y OUT
IC2101 C OUT
IC1901 C OUT
(10/14) IC2001 VIDEO A/D CONV.
AD0 C-AD9 C
ADCK27
IC901 Y OUT
ADATAIN0 ADATAIN1
ADATAOUT0 ADATAOUT1
SFD BCK
DATA FROM SFD
DATA TO SFD
(13/14) IC2901 D/A CONV. A/D CONV.
(13/14) IC3001 AUDIO I/O
EVF R EVF G EVF B
EVF HD EVF VD
PANEL R PANEL G PANEL B
PANEL HD PANEL VD
S.Y I/O
S.C I/O
CN1002
JK-242 BOARD(3/3)
VIDEO I/O
AUDIO L I/O
AUDIO R I/O
J5301 AUDIO/VIDEO
CN5303
SP+ SP-
HP L HP R
MIC L MIC R
② TO OVERALL BLOCK DIAGRAM (3/4) (PAGE 3-5)
③ TO OVERALL BLOCK DIAGRAM (2/4) (VA-118) (PAGE 3-3)
④ TO OVERALL BLOCK DIAGRAM (2/4) (VA-118) (PAGE 3-3)
① TO OVERALL BLOCK DIAGRAM (4/4) (PAGE 3-8)
MA-421 BOARD(1/3)
SE5401 YAW SENSOR
SE5402 PITCH SENSOR
CN5402
VA-118 BOARD(1/4)
(3/5) IC4301 YAW/PITCH SENSOR AMP
CN4002
CN4004
CN1002
JK-242 BOARD(1/3)
CN5301 (USB)
CN5303
CN1001
FP-630 (FLEXIBLE)
CN201 MEMORY STICK
MS BS,DIO,SCLK
CN1006
AUDIO SIGNAL
VIDEO SIGNAL
VIDEO/AUDIO SIGNAL

COVER

3. BLOCK DIAGRAMS

3-2. OVERALL BLOCK DIAGRAM (2/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

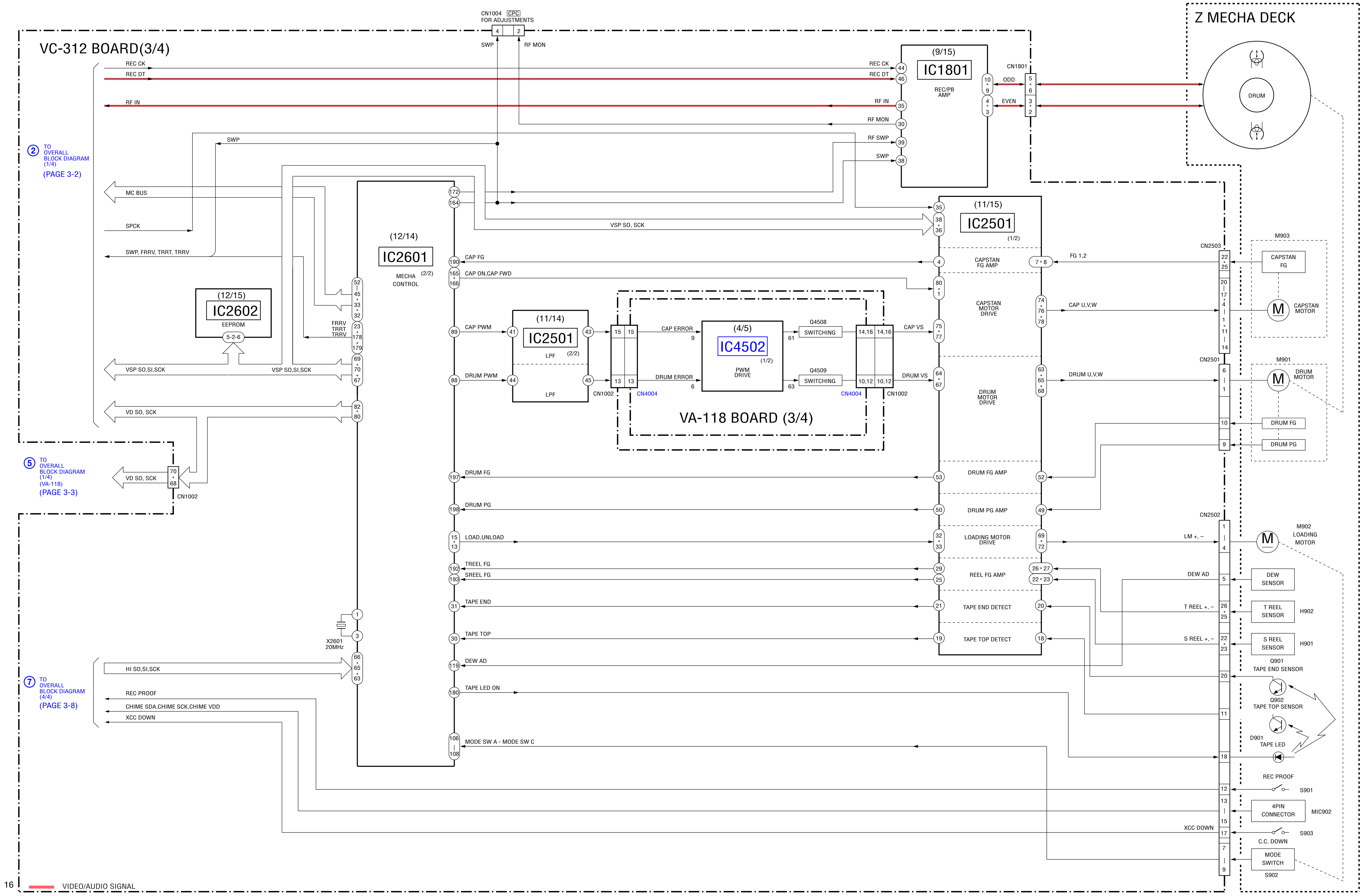

VC-312 BOARD (2/4)
CN1002
CN1004
CPC
FOR ADJUSTMENTS
PANEL VG
PSIG
XHD OUT
EVF VG
EVF VCO
VA-118 BOARD(2/4)
CN4004
CN4003
PANEL R,G B
HD
VD
BL CONT
5 TO OVER ALL BLOCK DIAGRAM (3/4) (VC-312) (PAGE 3-5)
VD,SO,SCK
6 TO OVER ALL BLOCK DIAGRAM (4/4) (PAGE 3-7)
PANEL R
PANEL G
PANEL B
PANEL HD
PANEL VD
EVF R
EVF G
EVF B
3 TO OVER ALL BLOCK DIAGRAM (1/4) (VC-312) (PAGE 3-2)
EVF R,G,B
(1/5) IC4201 RGB DRIVE
CN4201
(1/5) IC4202 TIMING GENERATOR
EVF HD
EVF VD
S.Y I/O
S.C I/O
VCO
G
4 TO OVER ALL BLOCK DIAGRAM (1/4) (VC-312) (PAGE 3-2)
SP+
SP-
HP L
HP R
MIC L
MIC R
CN4005
PD-188 BOARD(1/2)
CN6201
(1/2) IC6001 RGB DRIVE
VR,VG,VB
COM
DAC
(1/2) IC6002 TIMING GENERATOR
Q6101
HD OUT
IC6101 (1/2)
EP 2.8V
CN6001
LCD901(1/2)
2.5 INCH COLOR LCD UNIT
ND901 BACKLIGHT
BL HIGH
BL LOW
CN6101
T6101 Q6102
INVERTER
BACK LIGHT DRIVE
BL REG
(1/2) IC6102 CURRENT DET
DETIN
AUDIO SIGNAL
VIDEO SIGNAL
LB-085 BOARD
LCD902
COLOR EVF UNIT
R,G,B
COM
BCK, HCK1/2, HST, EN, STB, VCK, VST
CN5602
IC5601
Q5602
BACK LIGHT DRIVE
D5602 BACK LIGHT
CN5601
SP+, SP-
SP901 SPEAKER
CN5208
CN5205
CK-129 BOARD (1/2)
MA-421 BOARD (2/3)
J5404
S VIDEO
S Y I/O
S C I/O
MIC901 (MIC UNIT)
MIC L
MIC R
CN5401
(1/2) IC5501 MIC AMP
J5401 MIC (PLUG IN POWER)
SHOEMIC L
J5405 (headphones)
HP L
HP R
CN5402
CN4002
CN4001
SHOE MIC L
FP-620 (FLEXIBLE)
INTELLIGENT ACCESSORY SHOE (1/2)

COVER

3. BLOCK DIAGRAMS

3-3. OVERALL BLOCK DIAGRAM (3/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

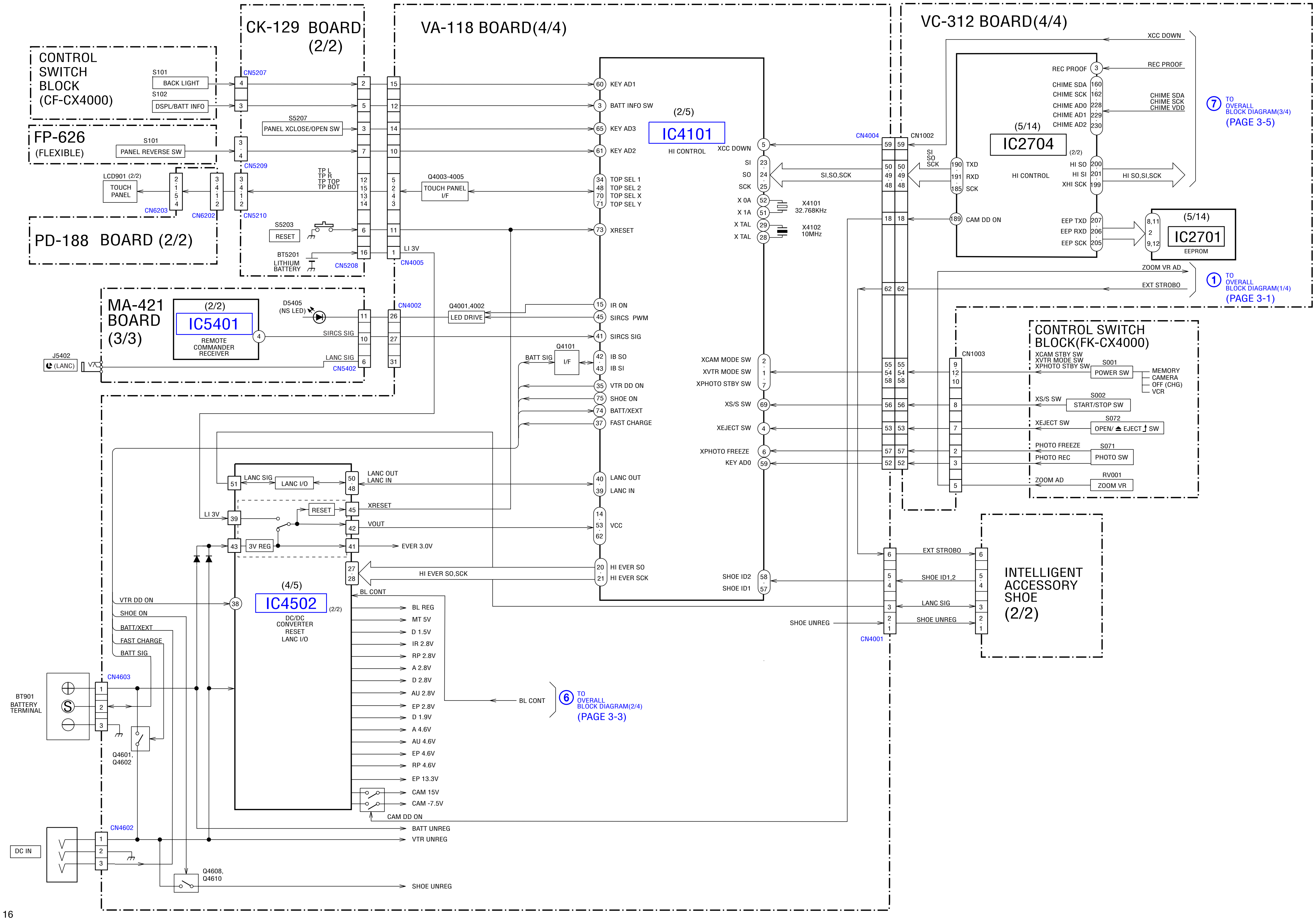


VC-312 BOARD(3/4)
CN1004 CPC FOR ADJUSTMENTS
SWP
RF MON
REC CK
REC DT
RF IN
MC BUS
SPCK
SWP, FRRV, TRRT, TRRV
VSP SO,SI,SCK
VD SO, SCK
② TO OVERALL BLOCK DIAGRAM (1/4) (PAGE 3-2)
⑤ TO OVERALL BLOCK DIAGRAM (1/4) (VA-118) (PAGE 3-3)
⑦ TO OVERALL BLOCK DIAGRAM (4/4) (PAGE 3-8)
CN1002
(9/15) IC1801 REC/PB AMP
RF SWP
CN1801
ODD
EVEN
(12/14) IC2601 MECHA CONTROL (2/2)
(12/15) IC2602 EEPROM
FRRV TRRT TRRV
CAP FG
CAP ON,CAP FWD
CAP PWM
DRUM PWM
(11/14) IC2501 (2/2) LPF
(11/15) IC2501 (1/2)
CAPSTAN FG AMP
CAPSTAN MOTOR DRIVE
DRUM MOTOR DRIVE
VSP SO, SCK
CAP ERROR
DRUM ERROR
(4/5) IC4502 (1/2) PWM DRIVE
Q4508 SWITCHING
Q4509 SWITCHING
CAP VS
DRUM VS
CN4004
VA-118 BOARD (3/4)
FG 1,2
CAP U,V,W
DRUM U,V,W
CN2503
CN2501
CN2502
DRUM FG
DRUM PG
DRUM FG AMP
DRUM PG AMP
LOAD,UNLOAD
LOADING MOTOR DRIVE
LM +, –
TREEL FG
SREEL FG
REEL FG AMP
TAPE END
TAPE END DETECT
TAPE TOP
TAPE TOP DETECT
DEW AD
TAPE LED ON
MODE SW A - MODE SW C
X2601 20MHz
HI SO,SI,SCK
REC PROOF
CHIME SDA,CHIME SCK,CHIME VDD
XCC DOWN
T REEL +, –
S REEL +, –
Z MECHA DECK
DRUM
M903 CAPSTAN FG CAPSTAN MOTOR
M901 DRUM MOTOR
M902 LOADING MOTOR
DEW SENSOR
T REEL SENSOR H902
S REEL SENSOR H901
Q901 TAPE END SENSOR
Q902 TAPE TOP SENSOR
D901 TAPE LED
REC PROOF S901
4PIN CONNECTOR MIC902
S903 C.C. DOWN
MODE SWITCH S902
16
VIDEO/AUDIO SIGNAL

COVER

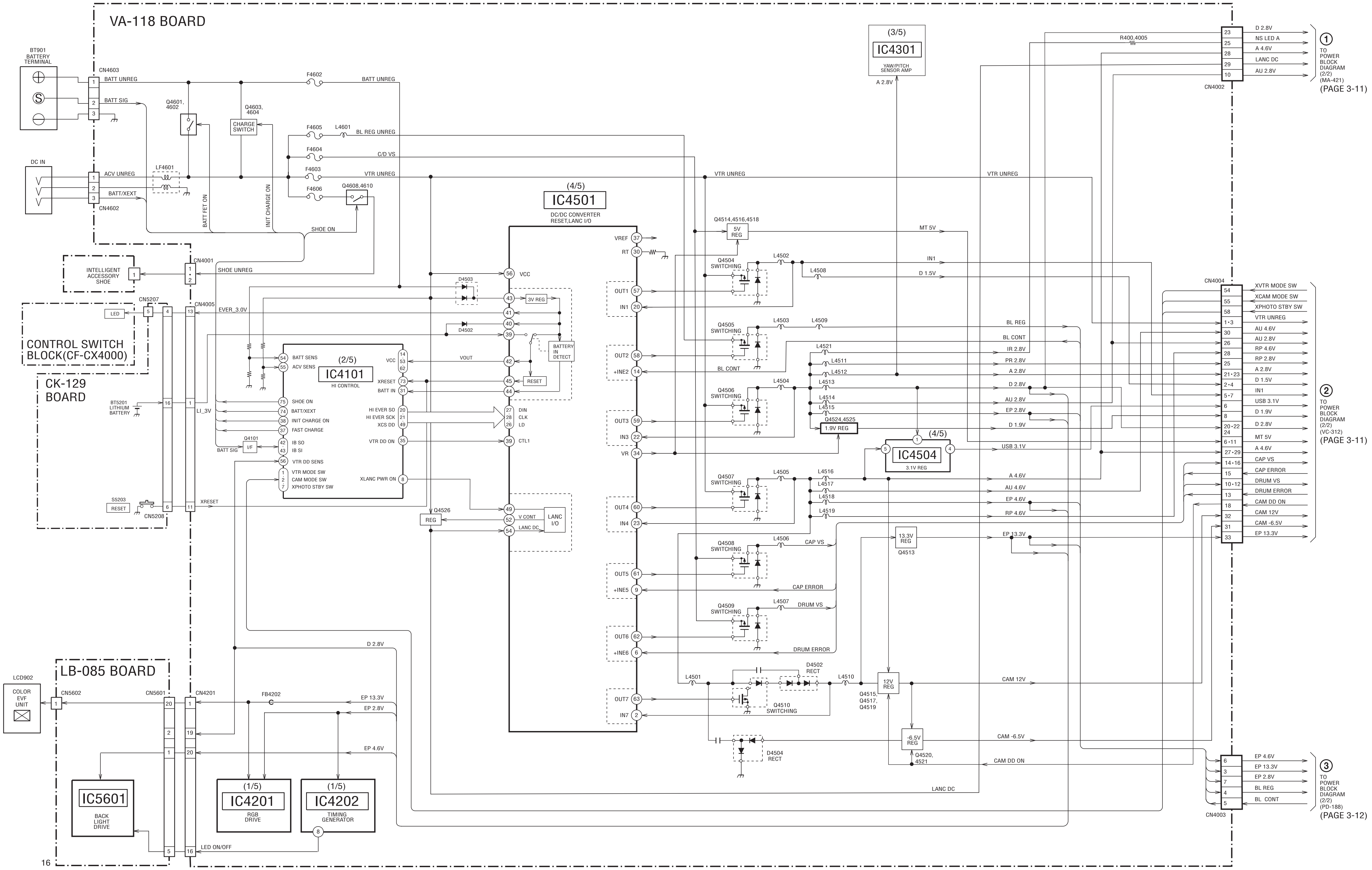
3-4. OVERALL BLOCK DIAGRAM (4/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.


CONTROL SWITCH BLOCK (CF-CX4000)
S101 BACK LIGHT
S102 DSPL/BATT INFO
FP-626 (FLEXIBLE)
S101 PANEL REVERSE SW
LCD901 (2/2)
TOUCH PANEL
CN6203
CN6202
PD-188 BOARD (2/2)
CK-129 BOARD (2/2)
CN5207
CN5209
CN5210
S5207 PANEL XCLOSE/OPEN SW
TP L
TP R
TP TOP
TP BOT
S5203 RESET
BT5201 LITHIUM BATTERY
CN5208
VA-118 BOARD(4/4)
Q4003-4005 TOUCH PANEL I/F
CN4005
LI 3V
CN4002
Q4001,4002 LED DRIVE
MA-421 BOARD (3/3)
(2/2) IC5401 REMOTE COMMANDER RECEIVER
D5405 (NS LED)
SIRCS SIG
LANC SIG
CN5402
J5402 (LANC)
Q4101 I/F
BATT SIG
(2/5) IC4101 HI CONTROL
KEY AD1
BATT INFO SW
KEY AD3
KEY AD2
TOP SEL 1
TOP SEL 2
TOP SEL X
TOP SEL Y
XRESET
IR ON
SIRCS PWM
SIRCS SIG
IB SO
IB SI
VTR DD ON
SHOE ON
BATT/XEXT
FAST CHARGE
LANC OUT
LANC IN
VCC
HI EVER SO
HI EVER SCK
XCC DOWN
SI
SO
SCK
X 0A
X 1A
X TAL
X TAL
X4101 32.768KHz
X4102 10MHz
XCAM MODE SW
XVTR MODE SW
XPHOTO STBY SW
XS/S SW
XEJECT SW
XPHOTO FREEZE
KEY AD0
SHOE ID2
SHOE ID1
SI,SO,SCK
CN4004
CN1002
VC-312 BOARD(4/4)
XCC DOWN
REC PROOF
CHIME SDA
CHIME SCK
CHIME VDD
(5/14) IC2704 HI CONTROL
CHIME AD0
CHIME AD1
CHIME AD2
HI SO
HI SI
XHI SCK
HI SO,SI,SCK
TXD
RXD
SCK
CAM DD ON
EEP TXD
EEP RXD
EEP SCK
(5/14) IC2701 EEPROM
ZOOM VR AD
EXT STROBO
⑦ TO OVERALL BLOCK DIAGRAM(3/4) (PAGE 3-5)
① TO OVERALL BLOCK DIAGRAM(1/4) (PAGE 3-1)
CN1003
CONTROL SWITCH BLOCK(FK-CX4000)
XCAM STBY SW
XVTR MODE SW
XPHOTO STBY SW
S001 POWER SW
MEMORY
CAMERA
OFF (CHG)
VCR
S002 START/STOP SW
S072 OPEN/⏏ EJECT SW
PHOTO FREEZE
PHOTO REC
S071 PHOTO SW
RV001 ZOOM VR
ZOOM AD
INTELLIGENT ACCESSORY SHOE (2/2)
EXT STROBO
SHOE ID1,2
LANC SIG
SHOE UNREG
CN4001
LANC SIG
LANC I/O
LANC OUT
LANC IN
XRESET
RESET
LI 3V
VOUT
3V REG
EVER 3.0V
HI EVER SO,SCK
BL CONT
(4/5) IC4502 (2/2) DC/DC CONVERTER RESET LANC I/O
VTR DD ON
SHOE ON
BATT/XEXT
FAST CHARGE
BATT SIG
BL REG
MT 5V
D 1.5V
IR 2.8V
RP 2.8V
A 2.8V
D 2.8V
AU 2.8V
EP 2.8V
D 1.9V
A 4.6V
AU 4.6V
EP 4.6V
RP 4.6V
EP 13.3V
CAM 15V
CAM -7.5V
CAM DD ON
BATT UNREG
VTR UNREG
SHOE UNREG
BL CONT
⑥ TO OVERALL BLOCK DIAGRAM(2/4) (PAGE 3-3)
CN4603
BT901 BATTERY TERMINAL
Q4601, Q4602
CN4602
DC IN
Q4608, Q4610

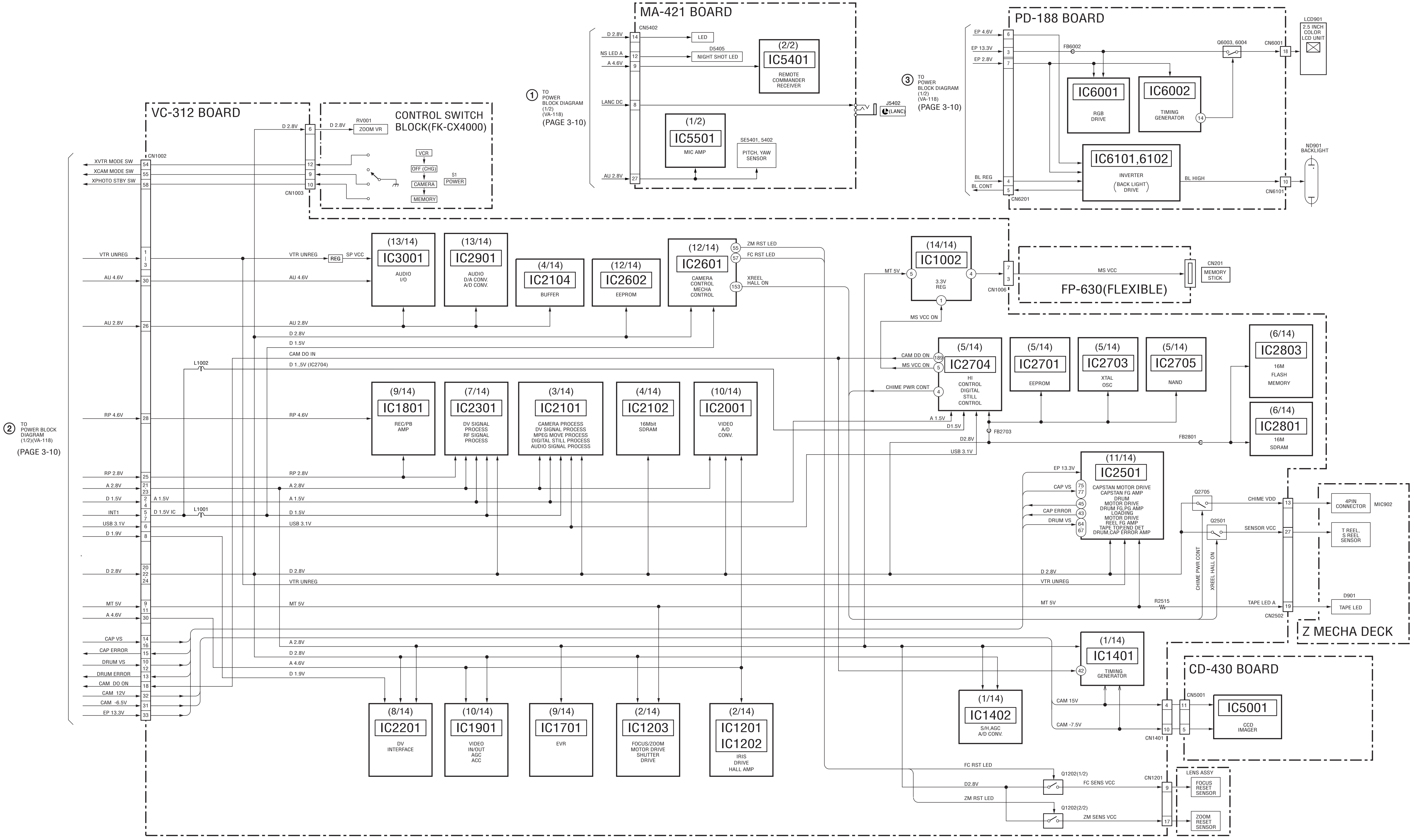
3-5. POWER BLOCK DIAGRAM (1/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.


VA-118 BOARD
BT901 BATTERY TERMINAL
CN4603
BATT UNREG
BATT SIG
Q4601, 4602
Q4603, 4604
CHARGE SWITCH
F4602
F4605
L4601
BL REG UNREG
F4604
C/D VS
F4603
VTR UNREG
F4606
Q4608,4610
DC IN
CN4602
ACV UNREG
LF4601
BATT/XEXT
BATT FET ON
INIT CHARGE ON
SHOE ON
INTELLIGENT ACCESSORY SHOE
CN4001
SHOE UNREG
CONTROL SWITCH BLOCK(CF-CX4000)
CN5207
LED
CN4005
EVER_3.0V
CK-129 BOARD
BT5201 LITHIUM BATTERY
LI_3V
S5203
RESET
CN5208
XRESET
(2/5)
IC4101
HI CONTROL
BATT SENS
ACV SENS
VCC
VOUT
XRESET
BATT IN
SHOE ON
BATT/XEXT
INIT CHARGE ON
FAST CHARGE
Q4101
I/F
BATT SIG
IB SO
IB SI
VTR DD SENS
VTR MODE SW
CAM MODE SW
XPHOTO STBY SW
HI EVER SO
HI EVER SCK
XCS DD
VTR DD ON
XLANC PWR ON
Q4526
REG
D4503
D4502
3V REG
BATTERY IN DETECT
RESET
(4/5)
IC4501
DC/DC CONVERTER RESET,LANC I/O
VCC
DIN
CLK
LD
CTL1
V CONT
LANC DC
LANC I/O
VREF
RT
OUT1
IN1
OUT2
+INE2
OUT3
IN3
VR
OUT4
IN4
OUT5
+INE5
OUT6
+INE6
OUT7
IN7
(3/5)
IC4301
YAW/PITCH SENSOR AMP
A 2.8V
R400,4005
Q4514,4516,4518
5V REG
MT 5V
Q4504 SWITCHING
L4502
L4508
IN1
D 1.5V
Q4505 SWITCHING
L4503
L4509
BL REG
BL CONT
L4521
L4511
L4512
IR 2.8V
PR 2.8V
A 2.8V
Q4506 SWITCHING
L4504
L4513
L4514
L4515
D 2.8V
AU 2.8V
EP 2.8V
Q4524,4525
1.9V REG
D 1.9V
(4/5)
IC4504
3.1V REG
USB 3.1V
Q4507 SWITCHING
L4505
L4516
L4517
L4518
L4519
A 4.6V
AU 4.6V
EP 4.6V
RP 4.6V
13.3V REG
Q4513
EP 13.3V
Q4508 SWITCHING
L4506
CAP VS
CAP ERROR
Q4509 SWITCHING
L4507
DRUM VS
DRUM ERROR
L4501
D4502 RECT
L4510
Q4510 SWITCHING
Q4515, Q4517, Q4519
12V REG
CAM 12V
-6.5V REG
Q4520, 4521
CAM -6.5V
CAM DD ON
D4504 RECT
LANC DC
D 2.8V
CN4002
D 2.8V
NS LED A
A 4.6V
LANC DC
AU 2.8V
① TO POWER BLOCK DIAGRAM (2/2) (MA-421) (PAGE 3-11)
CN4004
XVTR MODE SW
XCAM MODE SW
XPHOTO STBY SW
VTR UNREG
AU 4.6V
AU 2.8V
RP 4.6V
RP 2.8V
A 2.8V
D 1.5V
IN1
USB 3.1V
D 1.9V
D 2.8V
MT 5V
A 4.6V
CAP VS
CAP ERROR
DRUM VS
DRUM ERROR
CAM DD ON
CAM 12V
CAM -6.5V
EP 13.3V
② TO POWER BLOCK DIAGRAM (2/2) (VC-312) (PAGE 3-11)
CN4003
EP 4.6V
EP 13.3V
EP 2.8V
BL REG
BL CONT
③ TO POWER BLOCK DIAGRAM (2/2) (PD-188) (PAGE 3-12)
LB-085 BOARD
LCD902
COLOR EVF UNIT
CN5602
CN5601
CN4201
FB4202
EP 13.3V
EP 2.8V
EP 4.6V
IC5601
BACK LIGHT DRIVE
(1/5)
IC4201
RGB DRIVE
(1/5)
IC4202
TIMING GENERATOR
LED ON/OFF
16

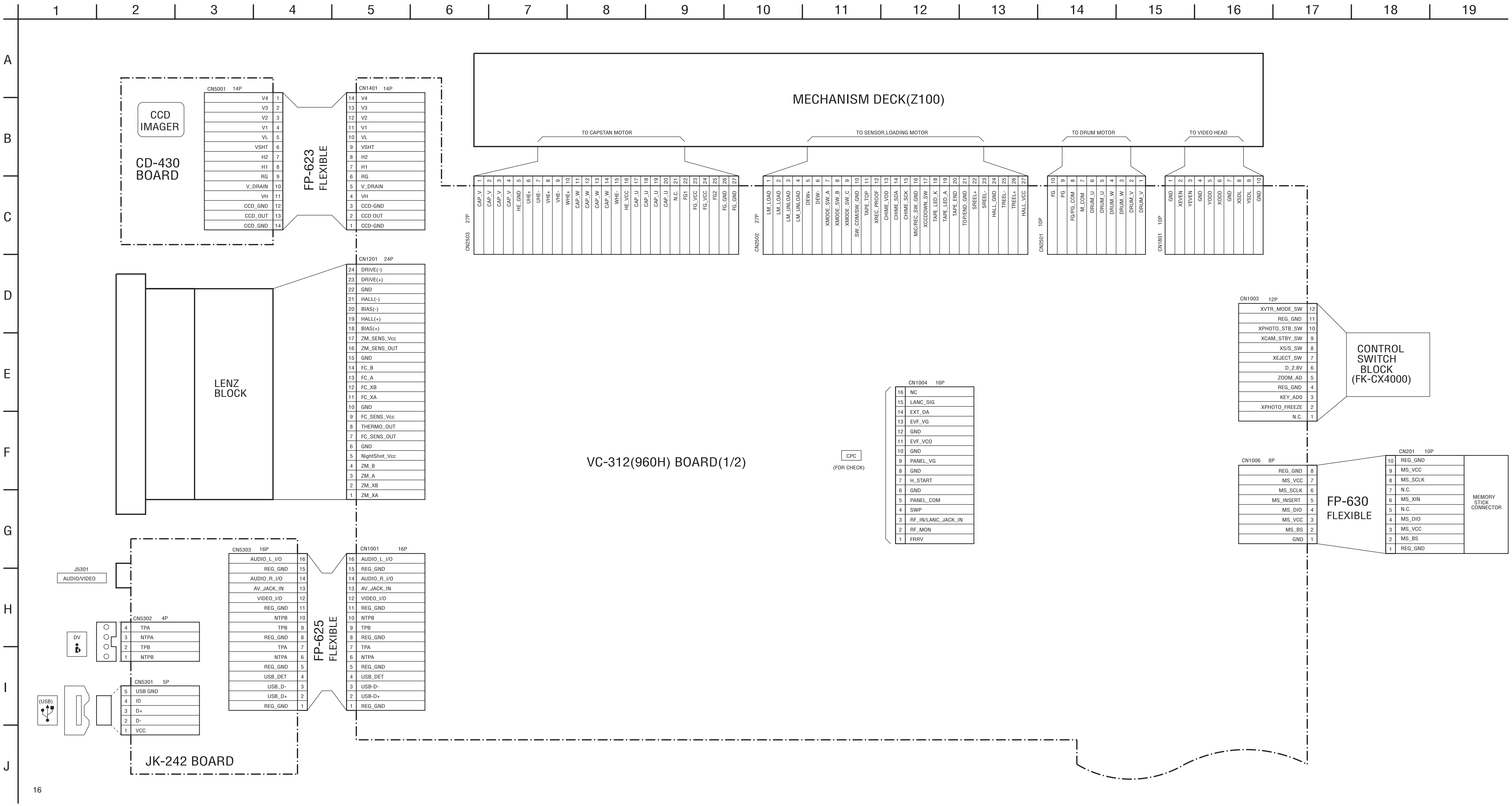
3-6. POWER BLOCK DIAGRAM (2/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

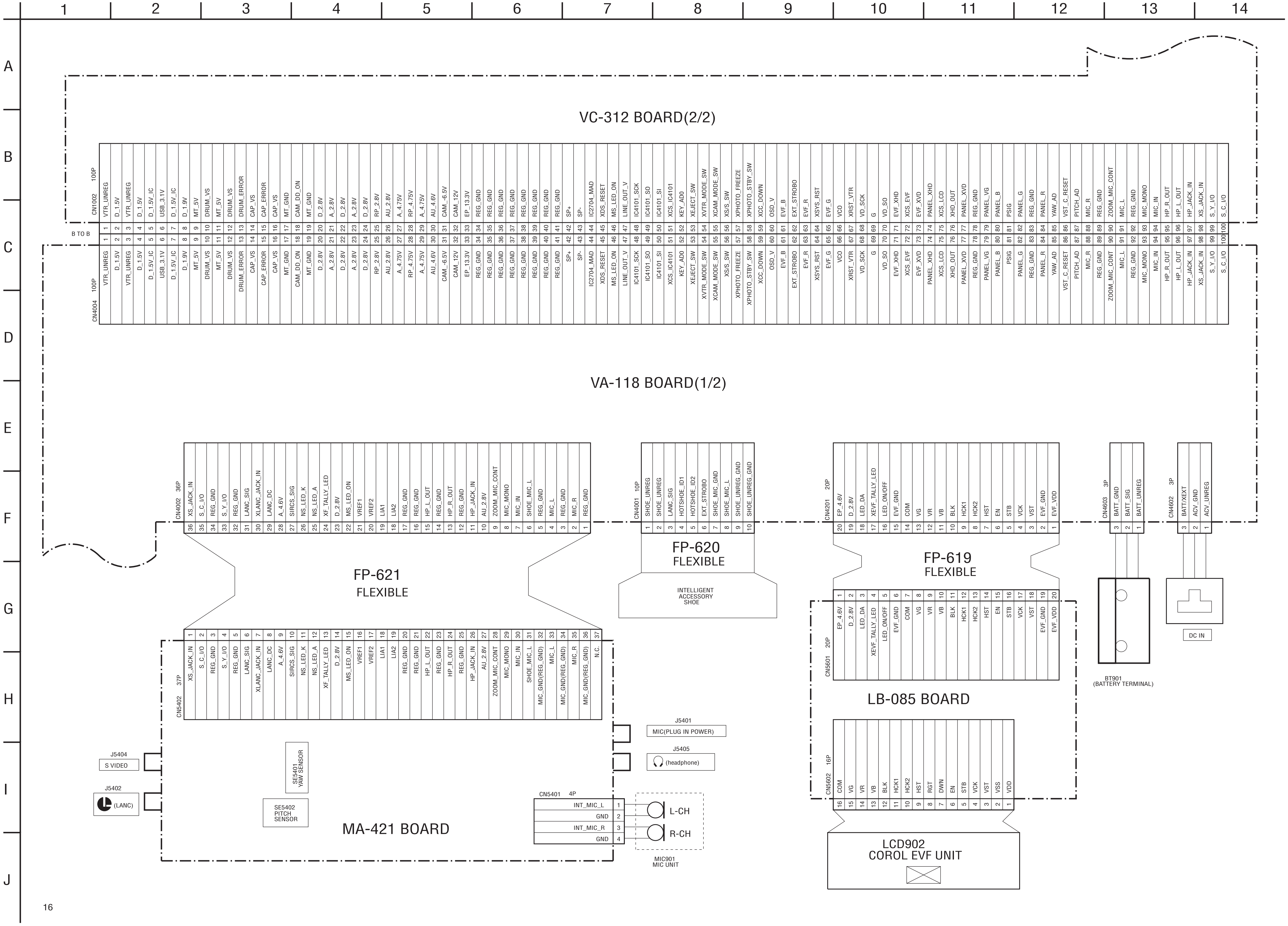

MA-421 BOARD
CN5402
D 2.8V
NS LED A
A 4.6V
LANC DC
AU 2.8V
LED
D5405
NIGHT SHOT LED
(2/2)
IC5401
REMOTE COMMANDER RECEIVER
(1/2)
IC5501
MIC AMP
SE5401, 5402
PITCH, YAW SENSOR
J5402
(LANC)
① TO POWER BLOCK DIAGRAM (1/2) (VA-118) (PAGE 3-10)
③ TO POWER BLOCK DIAGRAM (1/2) (VA-118) (PAGE 3-10)
PD-188 BOARD
EP 4.6V
EP 13.3V
EP 2.8V
FB6002
Q6003, 6004
CN6001
LCD901
2.5 INCH COLOR LCD UNIT
IC6001
RGB DRIVE
IC6002
TIMING GENERATOR
IC6101,6102
INVERTER (BACK LIGHT DRIVE)
BL REG
BL CONT
BL HIGH
CN6201
CN6101
ND901
BACKLIGHT
VC-312 BOARD
CN1002
CN1003
XVTR MODE SW
XCAM MODE SW
XPHOTO STBY SW
CONTROL SWITCH BLOCK(FK-CX4000)
RV001
ZOOM VR
VCR
OFF (CHG)
CAMERA
MEMORY
S1
POWER
② TO POWER BLOCK DIAGRAM (1/2)(VA-118) (PAGE 3-10)
VTR UNREG
AU 4.6V
AU 2.8V
RP 4.6V
RP 2.8V
A 2.8V
D 1.5V
INT1
USB 3.1V
D 1.9V
D 2.8V
MT 5V
A 4.6V
CAP VS
CAP ERROR
DRUM VS
DRUM ERROR
CAM DO ON
CAM 12V
CAM -6.5V
EP 13.3V
REG
SP VCC
(13/14)
IC3001
AUDIO I/O
(13/14)
IC2901
AUDIO D/A CONV. A/D CONV.
(4/14)
IC2104
BUFFER
(12/14)
IC2602
EEPROM
(12/14)
IC2601
CAMERA CONTROL MECHA CONTROL
ZM RST LED
FC RST LED
XREEL HALL ON
(14/14)
IC1002
3.3V REG
MT 5V
MS VCC ON
CN1006
FP-630(FLEXIBLE)
MS VCC
CN201
MEMORY STICK
CAM DO IN
D 1.5V (IC2704)
L1002
L1001
A 1.5V
D 1.5V IC
(9/14)
IC1801
REC/PB AMP
(7/14)
IC2301
DV SIGNAL PROCESS RF SIGNAL PROCESS
(3/14)
IC2101
CAMERA PROCESS DV SIGNAL PROCESS MPEG MOVE PROCESS DIGITAL STILL PROCESS AUDIO SIGNAL PROCESS
(4/14)
IC2102
16Mbit SDRAM
(10/14)
IC2001
VIDEO A/D CONV.
CAM DD ON
MS VCC ON
CHIME PWR CONT
(5/14)
IC2704
HI CONTROL DIGITAL STILL CONTROL
(5/14)
IC2701
EEPROM
(5/14)
IC2703
XTAL OSC
(5/14)
IC2705
NAND
(6/14)
IC2803
16M FLASH MEMORY
(6/14)
IC2801
16M SDRAM
FB2703
FB2801
D2.8V
(11/14)
IC2501
CAPSTAN MOTOR DRIVE CAPSTAN FG AMP DRUM MOTOR DRIVE DRUM FG,PG AMP LOADING MOTOR DRIVE REEL FG AMP TAPE TOP,END DET DRUM,CAP ERROR AMP
Q2705
Q2501
CHIME VDD
SENSOR VCC
CHIME PWR CONT
XREEL HALL ON
R2515
TAPE LED A
CN2502
4PIN CONNECTOR
MIC902
T REEL, S REEL SENSOR
D901
TAPE LED
Z MECHA DECK
(1/14)
IC1401
TIMING GENERATOR
(1/14)
IC1402
S/H,AGC A/D CONV.
CAM 15V
CAM -7.5V
CN1401
CD-430 BOARD
CN5001
IC5001
CCD IMAGER
FC RST LED
Q1202(1/2)
FC SENS VCC
ZM RST LED
Q1202(2/2)
ZM SENS VCC
CN1201
LENS ASSY
FOCUS RESET SENSOR
ZOOM RESET SENSOR
(8/14)
IC2201
DV INTERFACE
(10/14)
IC1901
VIDEO IN/OUT AGC ACC
(9/14)
IC1701
EVR
(2/14)
IC1203
FOCUS/ZOOM MOTOR DRIVE SHUTTER DRIVE
(2/14)
IC1201
IC1202
IRIS DRIVE HALL AMP

SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

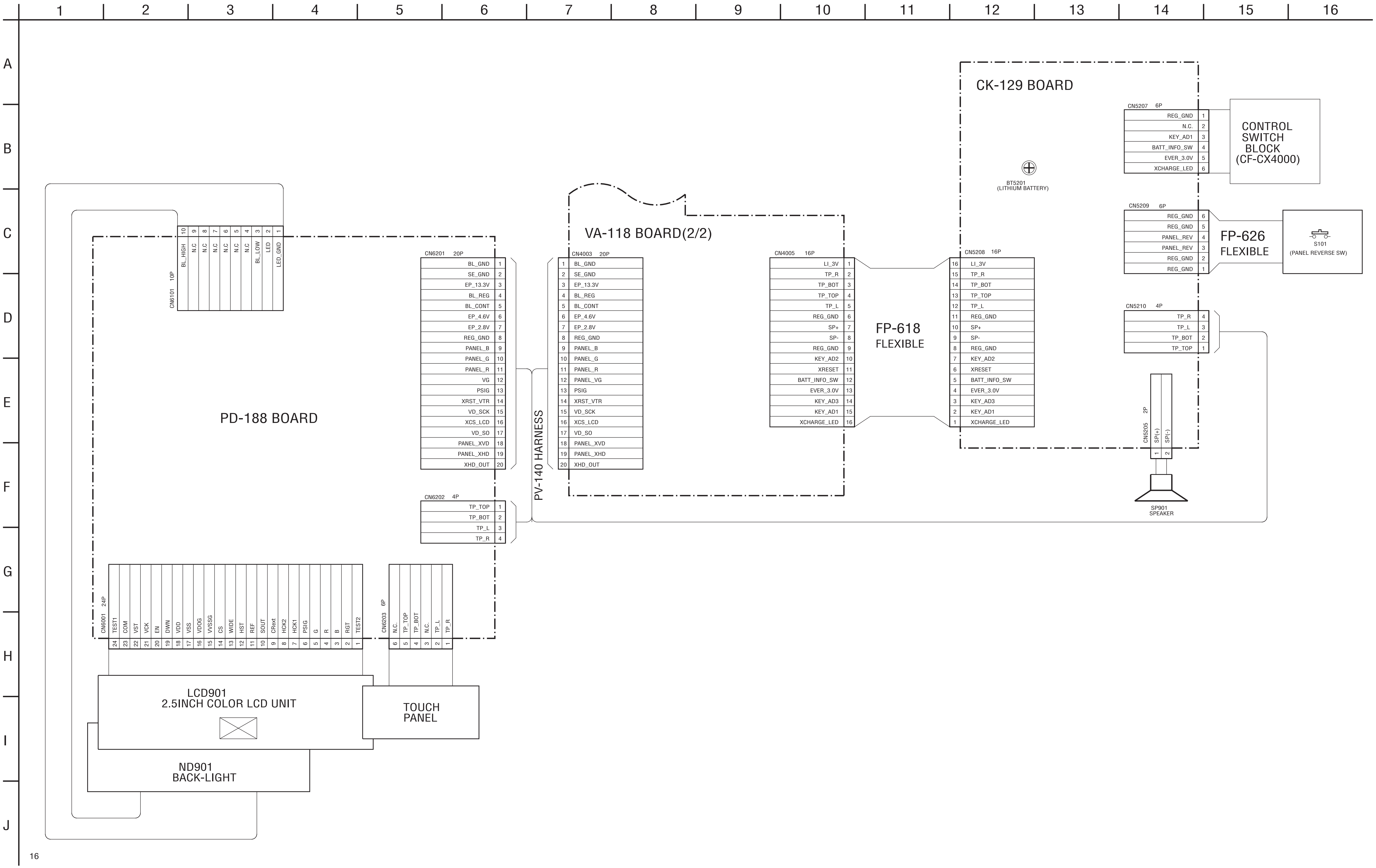
4-1. FRAME SCHEMATIC DIAGRAM (1/3)


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
A B C D E F G H I J
CCD IMAGER
CD-430 BOARD
CN5001 14P
V4 1
V3 2
V2 3
V1 4
VL 5
VSHT 6
H2 7
H1 8
RG 9
V_DRAIN 10
VH 11
CCD_GND 12
CCD_OUT 13
CCD_GND 14
FP-623 FLEXIBLE
CN1401 14P
14 V4
13 V3
12 V2
11 V1
10 VL
9 VSHT
8 H2
7 H1
6 RG
5 V_DRAIN
4 VH
3 CCD-GND
2 CCD OUT
1 CCD-GND
MECHANISM DECK(Z100)
TO CAPSTAN MOTOR
TO SENSOR,LOADING MOTOR
TO DRUM MOTOR
TO VIDEO HEAD
CN2503 27P
CAP_V 1
CAP_V 2
CAP_V 3
CAP_V 4
HE_GND 5
UHE+ 6
UHE- 7
VHE+ 8
VHE- 9
WHE+ 10
CAP_W 11
CAP_W 12
CAP_W 13
CAP_W 14
WHE- 15
HE_VCC 16
CAP_U 17
CAP_U 18
CAP_U 19
CAP_U 20
N.C. 21
FG1 22
FG_VCC 23
FG_VCC 24
FG2 25
FG_GND 26
FG_GND 27
CN2502 27P
LM_LOAD 1
LM_LOAD 2
LM_UNLOAD 3
LM_UNLOAD 4
DEW+ 5
DEW- 6
XMODE_SW_A 7
XMODE_SW_B 8
XMODE_SW_C 9
SW_COM/SW_GND 10
TAPE_TOP 11
XREC_PROOF 12
CHIME_VDD 13
CHIME_SDA 14
CHIME_SCK 15
MIC/REC_SW_GND 16
XCCDOWN_SW 17
TAPE_LED_K 18
TAPE_LED_A 19
TAPE_END 20
TOP/END_GND 21
SREEL+ 22
SREEL- 23
HALL_GND 24
TREEL- 25
TREEL+ 26
HALL_VCC 27
CN2501 10P
FG 10
PG 9
FG/PG_COM 8
M_COM 7
DRUM_U 6
DRUM_U 5
DRUM_W 4
DRUM_W 3
DRUM_V 2
DRUM_V 1
CN1801 10P
GND 1
XEVEN 2
YEVEN 3
GND 4
YODD 5
XODD 6
GND 7
XSDL 8
YSDL 9
GND 10
LENZ BLOCK
CN1201 24P
24 DRIVE(-)
23 DRIVE(+)
22 GND
21 HALL(-)
20 BIAS(-)
19 HALL(+)
18 BIAS(+)
17 ZM_SENS_Vcc
16 ZM_SENS_OUT
15 GND
14 FC_B
13 FC_A
12 FC_XB
11 FC_XA
10 GND
9 FC_SENS_Vcc
8 THERMO_OUT
7 FC_SENS_OUT
6 GND
5 NightShot_Vcc
4 ZM_B
3 ZM_A
2 ZM_XB
1 ZM_XA
VC-312(960H) BOARD(1/2)
CPC
(FOR CHECK)
CN1004 16P
16 NC
15 LANC_SIG
14 EXT_DA
13 EVF_VG
12 GND
11 EVF_VCO
10 GND
9 PANEL_VG
8 GND
7 H_START
6 GND
5 PANEL_COM
4 SWP
3 RF_IN/LANC_JACK_IN
2 RF_MON
1 FRRV
CN1003 12P
XVTR_MODE_SW 12
REG_GND 11
XPHOTO_STB_SW 10
XCAM_STBY_SW 9
XS/S_SW 8
XEJECT_SW 7
D_2.8V 6
ZOOM_AD 5
REG_GND 4
KEY_AD0 3
XPHOTO_FREEZE 2
N.C. 1
CONTROL SWITCH BLOCK (FK-CX4000)
CN1006 8P
REG_GND 8
MS_VCC 7
MS_SCLK 6
MS_INSERT 5
MS_DIO 4
MS_VCC 3
MS_BS 2
GND 1
FP-630 FLEXIBLE
CN201 10P
10 REG_GND
9 MS_VCC
8 MS_SCLK
7 N.C.
6 MS_XIN
5 N.C.
4 MS_DIO
3 MS_VCC
2 MS_BS
1 REG_GND
MEMORY STICK CONNECTOR
J5301 AUDIO/VIDEO
DV
CN5302 4P
4 TPA
3 NTPA
2 TPB
1 NTPB
(USB)
CN5301 5P
5 USB GND
4 ID
3 D+
2 D-
1 VCC
CN5303 16P
AUDIO_L_I/O 16
REG_GND 15
AUDIO_R_I/O 14
AV_JACK_IN 13
VIDEO_I/O 12
REG_GND 11
NTPB 10
TPB 9
REG_GND 8
TPA 7
NTPA 6
REG_GND 5
USB_DET 4
USB_D- 3
USB_D+ 2
REG_GND 1
FP-625 FLEXIBLE
CN1001 16P
16 AUDIO_L_I/O
15 REG_GND
14 AUDIO_R_I/O
13 AV_JACK_IN
12 VIDEO_I/O
11 REG_GND
10 NTPB
9 TPB
8 REG_GND
7 TPA
6 NTPA
5 REG_GND
4 USB_DET
3 USB-D-
2 USB-D+
1 REG_GND
JK-242 BOARD
16

FRAME SCHEMATIC DIAGRAM (2/3)


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
VC-312 BOARD(2/2)
CN1002 100P
1 VTR_UNREG 2 D_1.5V 3 VTR_UNREG 4 D_1.5V 5 D_1.5V_IC 6 USB_3.1V 7 D_1.5V_IC 8 D_1.9V 9 MT_5V 10 DRUM_VS 11 MT_5V 12 DRUM_VS 13 DRUM_ERROR 14 CAP_VS 15 CAP_ERROR 16 CAP_VS 17 MT_GND 18 CAM_DD_ON 19 MT_GND 20 D_2.8V 21 A_2.8V 22 D_2.8V 23 A_2.8V 24 D_2.8V 25 RP_2.8V 26 AU_2.8V 27 A_4.75V 28 RP_4.75V 29 A_4.75V 30 AU_4.6V 31 CAM_-6.5V 32 CAM_12V 33 EP_13.3V 34 REG_GND 35 REG_GND 36 REG_GND 37 REG_GND 38 REG_GND 39 REG_GND 40 REG_GND 41 REG_GND 42 SP+ 43 SP- 44 IC2704_MAD 45 XDS_RESET 46 MS_LED_ON 47 LINE_OUT_V 48 IC4101_SCK 49 IC4101_SO 50 IC4101_SI 51 XCS_IC4101 52 KEY_AD0 53 XEJECT_SW 54 XVTR_MODE_SW 55 XCAM_MODE_SW 56 XS/S_SW 57 XPHOTO_FREEZE 58 XPHOTO_STBY_SW 59 XCC_DOWN 60 OSD_V 61 EVF_B 62 EXT_STROBO 63 EVF_R 64 XSYS_RST 65 EVF_G 66 VCO 67 XRST_VTR 68 VD_SCK 69 G 70 VD_SO 71 EVF_XHD 72 XCS_EVF 73 EVF_XVD 74 PANEL_XHD 75 XCS_LCD 76 XHD_OUT 77 PANEL_XVD 78 REG_GND 79 PANEL_VG 80 PANEL_B 81 PSIG 82 PANEL_G 83 REG_GND 84 PANEL_R 85 YAW_AD 86 VST_C_RESET 87 PITCH_AD 88 MIC_R 89 REG_GND 90 ZOOM_MIC_CONT 91 MIC_L 92 REG_GND 93 MIC_MONO 94 MIC_IN 95 HP_R_OUT 96 HP_L_OUT 97 HP_JACK_IN 98 XS_JACK_IN 99 S_Y_I/O 100 S_C_I/O
B TO B
CN4004 100P
1 VTR_UNREG 2 D_1.5V 3 VTR_UNREG 4 D_1.5V 5 D_1.5V_IC 6 USB_3.1V 7 D_1.5V_IC 8 D_1.9V 9 MT_5V 10 DRUM_VS 11 MT_5V 12 DRUM_VS 13 DRUM_ERROR 14 CAP_VS 15 CAP_ERROR 16 CAP_VS 17 MT_GND 18 CAM_DD_ON 19 MT_GND 20 D_2.8V 21 A_2.8V 22 D_2.8V 23 A_2.8V 24 D_2.8V 25 RP_2.8V 26 AU_2.8V 27 A_4.75V 28 RP_4.75V 29 A_4.75V 30 AU_4.6V 31 CAM_-6.5V 32 CAM_12V 33 EP_13.3V 34 REG_GND 35 REG_GND 36 REG_GND 37 REG_GND 38 REG_GND 39 REG_GND 40 REG_GND 41 REG_GND 42 SP+ 43 SP- 44 IC2704_MAD 45 XDS_RESET 46 MS_LED_ON 47 LINE_OUT_V 48 IC4101_SCK 49 IC4101_SO 50 IC4101_SI 51 XCS_IC4101 52 KEY_AD0 53 XEJECT_SW 54 XVTR_MODE_SW 55 XCAM_MODE_SW 56 XS/S_SW 57 XPHOTO_FREEZE 58 XPHOTO_STBY_SW 59 XCC_DOWN 60 OSD_V 61 EVF_B 62 EXT_STROBO 63 EVF_R 64 XSYS_RST 65 EVF_G 66 VCO 67 XRST_VTR 68 VD_SCK 69 G 70 VD_SO 71 EVF_XHD 72 XCS_EVF 73 EVF_XVD 74 PANEL_XHD 75 XCS_LCD 76 XHD_OUT 77 PANEL_XVD 78 REG_GND 79 PANEL_VG 80 PANEL_B 81 PSIG 82 PANEL_G 83 REG_GND 84 PANEL_R 85 YAW_AD 86 VST_C_RESET 87 PITCH_AD 88 MIC_R 89 REG_GND 90 ZOOM_MIC_CONT 91 MIC_L 92 REG_GND 93 MIC_MONO 94 MIC_IN 95 HP_R_OUT 96 HP_L_OUT 97 HP_JACK_IN 98 XS_JACK_IN 99 S_Y_I/O 100 S_C_I/O
VA-118 BOARD(1/2)
CN4002 36P
36 XS_JACK_IN 35 S_C_I/O 34 REG_GND 33 S_Y_I/O 32 REG_GND 31 LANC_SIG 30 XLANC_JACK_IN 29 LANC_DC 28 A_4.6V 27 SIRCS_SIG 26 NS_LED_K 25 NS_LED_A 24 XF_TALLY_LED 23 D_2.8V 22 MS_LED_ON 21 VREF1 20 VREF2 19 LIA1 18 LIA2 17 REG_GND 16 REG_GND 15 HP_L_OUT 14 REG_GND 13 HP_R_OUT 12 REG_GND 11 HP_JACK_IN 10 AU_2.8V 9 ZOOM_MIC_CONT 8 MIC_MONO 7 MIC_IN 6 SHOE_MIC_L 5 REG_GND 4 MIC_L 3 REG_GND 2 MIC_R 1 REG_GND
FP-621
FLEXIBLE
CN5402 37P
1 XS_JACK_IN 2 S_C_I/O 3 REG_GND 4 S_Y_I/O 5 REG_GND 6 LANC_SIG 7 XLANC_JACK_IN 8 LANC_DC 9 A_4.6V 10 SIRCS_SIG 11 NS_LED_K 12 NS_LED_A 13 XF_TALLY_LED 14 D_2.8V 15 MS_LED_ON 16 VREF1 17 VREF2 18 LIA1 19 LIA2 20 REG_GND 21 REG_GND 22 HP_L_OUT 23 REG_GND 24 HP_R_OUT 25 REG_GND 26 HP_JACK_IN 27 AU_2.8V 28 ZOOM_MIC_CONT 29 MIC_MONO 30 MIC_IN 31 SHOE_MIC_L 32 MIC_GND(REG_GND) 33 MIC_L 34 MIC_GND(REG_GND) 35 MIC_R 36 MIC_GND(REG_GND) 37 N.C.
MA-421 BOARD
J5404
S VIDEO
J5402
(LANC)
SE5401
YAW SENSOR
SE5402
PITCH
SENSOR
CN5401 4P
INT_MIC_L 1
GND 2
INT_MIC_R 3
GND 4
L-CH
R-CH
MIC901
MIC UNIT
J5401
MIC(PLUG IN POWER)
J5405
(headphone)
CN4001 10P
1 SHOE_UNREG 2 SHOE_UNREG 3 LANC_SIG 4 HOTSHOE_ID1 5 HOTSHOE_ID2 6 EXT_STROBO 7 SHOE_MIC_GND 8 SHOE_MIC_L 9 SHOE_UNREG_GND 10 SHOE_UNREG_GND
FP-620
FLEXIBLE
INTELLIGENT
ACCESSORY
SHOE
CN4201 20P
20 EP_4.6V 19 D_2.8V 18 LED_DA 17 XEVF_TALLY_LED 16 LED_ON/OFF 15 EVF_GND 14 COM 13 VG 12 VR 11 VB 10 BLK 9 HCK1 8 HCK2 7 HST 6 EN 5 STB 4 VCK 3 VST 2 EVF_GND 1 EVF_VDD
FP-619
FLEXIBLE
CN5601 20P
1 EP_4.6V 2 D_2.8V 3 LED_DA 4 XEVF_TALLY_LED 5 LED_ON/OFF 6 EVF_GND 7 COM 8 VG 9 VR 10 VB 11 BLK 12 HCK1 13 HCK2 14 HST 15 EN 16 STB 17 VCK 18 VST 19 EVF_GND 20 EVF_VDD
LB-085 BOARD
CN5602 16P
16 COM 15 VG 14 VR 13 VB 12 BLK 11 HCK1 10 HCK2 9 HST 8 RGT 7 DWN 6 EN 5 STB 4 VCK 3 VST 2 VSS 1 VDD
LCD902
COROL EVF UNIT
CN4603 3P
3 BATT_GND 2 BATT_SIG 1 BATT_UNREG
BT901
(BATTERY TERMINAL)
CN4602 3P
3 BATT/XEXT 2 ACV_GND 1 ACV_UNREG
DC IN

FRAME SCHEMATIC DIAGRAM (3/3)


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J
PD-188 BOARD
CN6101 10P
1 LED_GND
2 LED
3 BL_LOW
4 N.C
5 N.C
6 N.C
7 N.C
8 N.C
9 N.C
10 BL_HIGH
CN6201 20P
BL_GND 1
SE_GND 2
EP_13.3V 3
BL_REG 4
BL_CONT 5
EP_4.6V 6
EP_2.8V 7
REG_GND 8
PANEL_B 9
PANEL_G 10
PANEL_R 11
VG 12
PSIG 13
XRST_VTR 14
VD_SCK 15
XCS_LCD 16
VD_SO 17
PANEL_XVD 18
PANEL_XHD 19
XHD_OUT 20
CN6202 4P
TP_TOP 1
TP_BOT 2
TP_L 3
TP_R 4
CN6001 24P
24 TEST1
23 COM
22 VST
21 VCK
20 EN
19 DWN
18 VDD
17 VSS
16 VDOG
15 VVSSG
14 CS
13 WIDE
12 HST
11 REF
10 SOUT
9 CRext
8 HCK2
7 HCK1
6 PSIG
5 G
4 R
3 B
2 RGT
1 TEST2
CN6203 6P
6 N.C.
5 TP_TOP
4 TP_BOT
3 N.C.
2 TP_L
1 TP_R
LCD901
2.5INCH COLOR LCD UNIT
TOUCH
PANEL
ND901
BACK-LIGHT
PV-140 HARNESS
VA-118 BOARD(2/2)
CN4003 20P
1 BL_GND
2 SE_GND
3 EP_13.3V
4 BL_REG
5 BL_CONT
6 EP_4.6V
7 EP_2.8V
8 REG_GND
9 PANEL_B
10 PANEL_G
11 PANEL_R
12 PANEL_VG
13 PSIG
14 XRST_VTR
15 VD_SCK
16 XCS_LCD
17 VD_SO
18 PANEL_XVD
19 PANEL_XHD
20 XHD_OUT
CN4005 16P
LI_3V 1
TP_R 2
TP_BOT 3
TP_TOP 4
TP_L 5
REG_GND 6
SP+ 7
SP- 8
REG_GND 9
KEY_AD2 10
XRESET 11
BATT_INFO_SW 12
EVER_3.0V 13
KEY_AD3 14
KEY_AD1 15
XCHARGE_LED 16
FP-618
FLEXIBLE
CK-129 BOARD
CN5208 16P
16 LI_3V
15 TP_R
14 TP_BOT
13 TP_TOP
12 TP_L
11 REG_GND
10 SP+
9 SP-
8 REG_GND
7 KEY_AD2
6 XRESET
5 BATT_INFO_SW
4 EVER_3.0V
3 KEY_AD3
2 KEY_AD1
1 XCHARGE_LED
BT5201
(LITHIUM BATTERY)
CN5207 6P
REG_GND 1
N.C. 2
KEY_AD1 3
BATT_INFO_SW 4
EVER_3.0V 5
XCHARGE_LED 6
CONTROL
SWITCH
BLOCK
(CF-CX4000)
CN5209 6P
REG_GND 6
REG_GND 5
PANEL_REV 4
PANEL_REV 3
REG_GND 2
REG_GND 1
FP-626
FLEXIBLE
S101
(PANEL REVERSE SW)
CN5210 4P
TP_R 4
TP_L 3
TP_BOT 2
TP_TOP 1
CN5205 2P
1 SP(+)
2 SP(-)
SP901
SPEAKER
16

COVER

4-2. SCHEMATIC DIAGRAMS

Link

- CD-430 BOARD (CCD IMAGER)
- LB-085 BOARD (EVF, BACK LIGHT)
- VA-118 BOARD (1/5) (RGB DRIVE, TG)
- VA-118 BOARD (2/5) (HI CONTROL)
- VA-118 BOARD (3/5) (Y/P SENSOR AMP, CONNECTOR)
- VA-118 BOARD (4/5) (DC/DC COVERTER)
- VA-118 BOARD (5/5) (POWER IN, CHARGE)
- CK-129 BOARD (FUNCTION SWITCH)
- PD-188 BOARD (1/2) (DRIVER, TG)
- PD-188 BOARD (2/2) (BACKLIGHT DRIVE)
- JK-242 BOARD (A.V/DV IN/OUT)
- CONTROL SWITCH BLOCK (FK-CX4000)
- MA-421 BOARD (1/2) (MIC AMP)
- MA-421 BOARD (2/2) (Y/P SENSOR, V/A IN/OUT)
- FP-467/468/228 FLEXIBLE (MD BLOCK)

- COMMON NOTE FOR SCHEMATIC DIAGRAMS
- WAVEFORMS

4-2. SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For schematic diagrams)
- All capacitors are in μF unless otherwise noted. pF : μμF. 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10 W unless otherwise noted. kΩ=1000 Ω, MΩ=1000 kΩ.
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

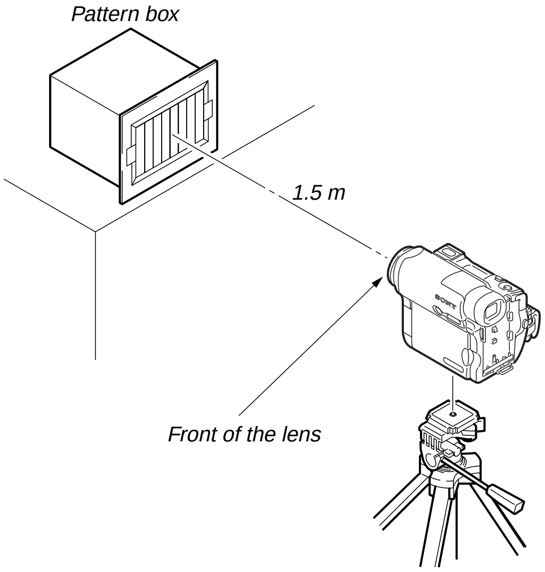
Example	C541	L452
	22U	10UH
	TA A	2520

Kinds of capacitor
Temperature characteristics
External dimensions (mm)

- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
  In such cases, the unused circuits may be indicated.
- Parts with * differ according to the model/destination. Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
- ─▭─ : non flammable resistor
- ─∿•─ : fusible resistor
- ▭ : panel designation
- 🟥 : B+ Line
- 🟥 🟥 🟥 : B– Line
- ⇨ : IN/OUT direction of (+,–) B LINE.
- ▭ : adjustment for repair.
- 🟩 : VIDEO SIGNAL (ANALOG)
- 🟪 : AUDIO SIGNAL (ANALOG)
- 🟧 : VIDEO/AUDIO SIGNAL
- 🟨 : VIDEO/AUDIO/SERVO SIGNAL
- 🟦 : SERVO SIGNAL
- Circled numbers refer to waveforms.

(Measuring conditions voltage and waveform)
- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms.
  (VOM of DC 10 MΩ input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

1. Connection



2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

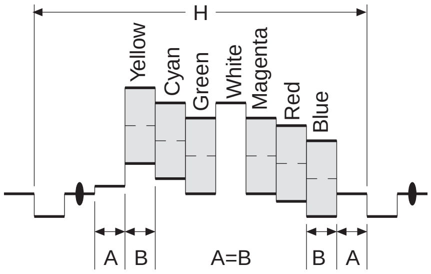


Fig. a (Video output terminal output waveform)

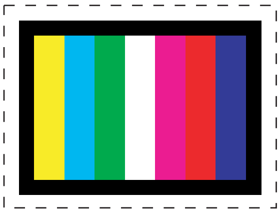


Fig.b (Picture on monitor TV)

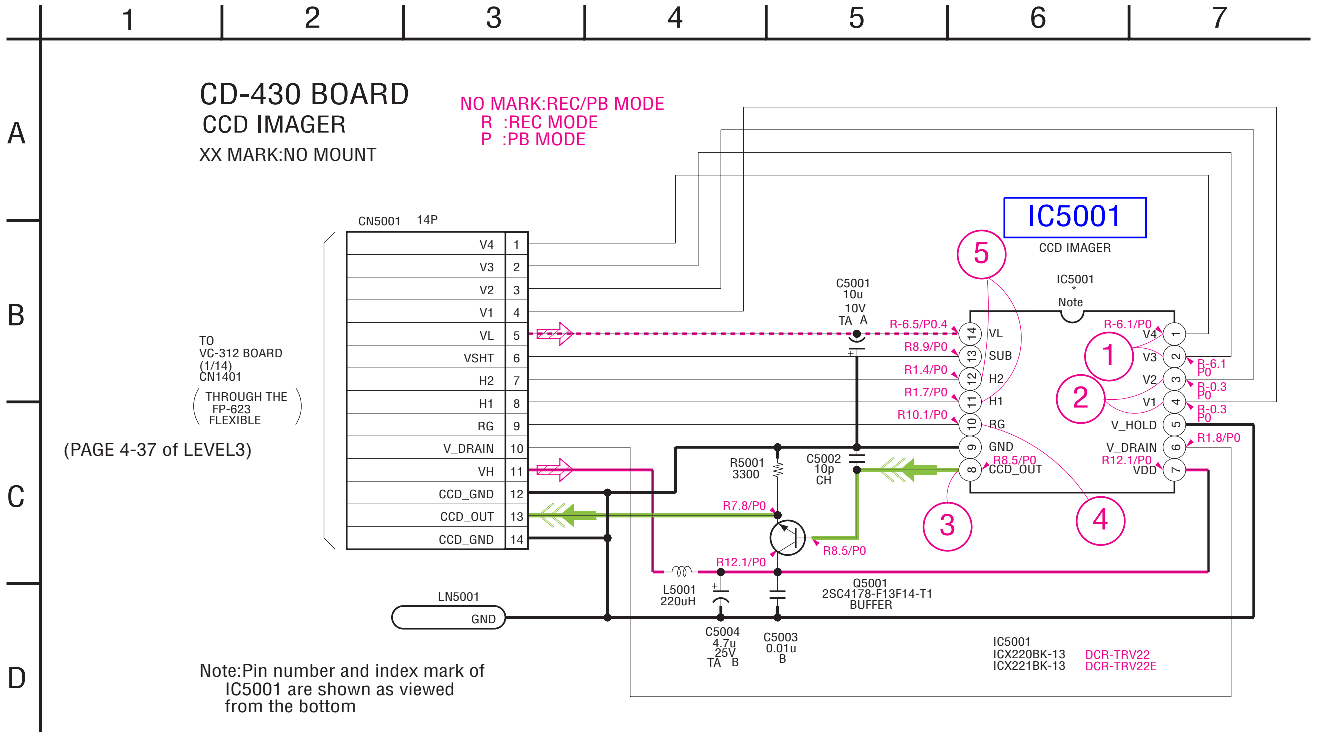
When indicating parts by reference number, please include the board name.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

4-2. SCHEMATIC DIAGRAMS

For Schematic Diagram

- Refer to page 4-67 for printed wiring board of CD-430 board.
- Refer to page 4-69 for printed wiring board of LB-085 board.


CD-430 BOARD
CCD IMAGER
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
IC5001
CCD IMAGER
CN5001 14P
V4
V3
V2
V1
VL
VSHT
H2
H1
RG
V_DRAIN
VH
CCD_GND
CCD_OUT
CCD_GND
TO VC-312 BOARD (1/14) CN1401
THROUGH THE FP-623 FLEXIBLE
(PAGE 4-37 of LEVEL3)
C5001 10u 10V TA A
R5001 3300
C5002 10p CH
L5001 220uH
C5004 4.7u 25V TA B
C5003 0.01u B
Q5001 2SC4178-F13F14-T1 BUFFER
LN5001 GND
IC5001 ICX220BK-13 ICX221BK-13
DCR-TRV22 DCR-TRV22E
VL
SUB
H2
H1
RG
GND
CCD_OUT
V4
V3
V2
V1
V_HOLD
V_DRAIN
VDD
R-6.5/P0.4
R8.9/P0
R1.4/P0
R1.7/P0
R10.1/P0
R7.8/P0
R12.1/P0
R8.5/P0
R-6.1/P0
R12.1/P0
R1.8/P0
1
2
3
4
5

Note:Pin number and index mark of IC5001 are shown as viewed from the bottom

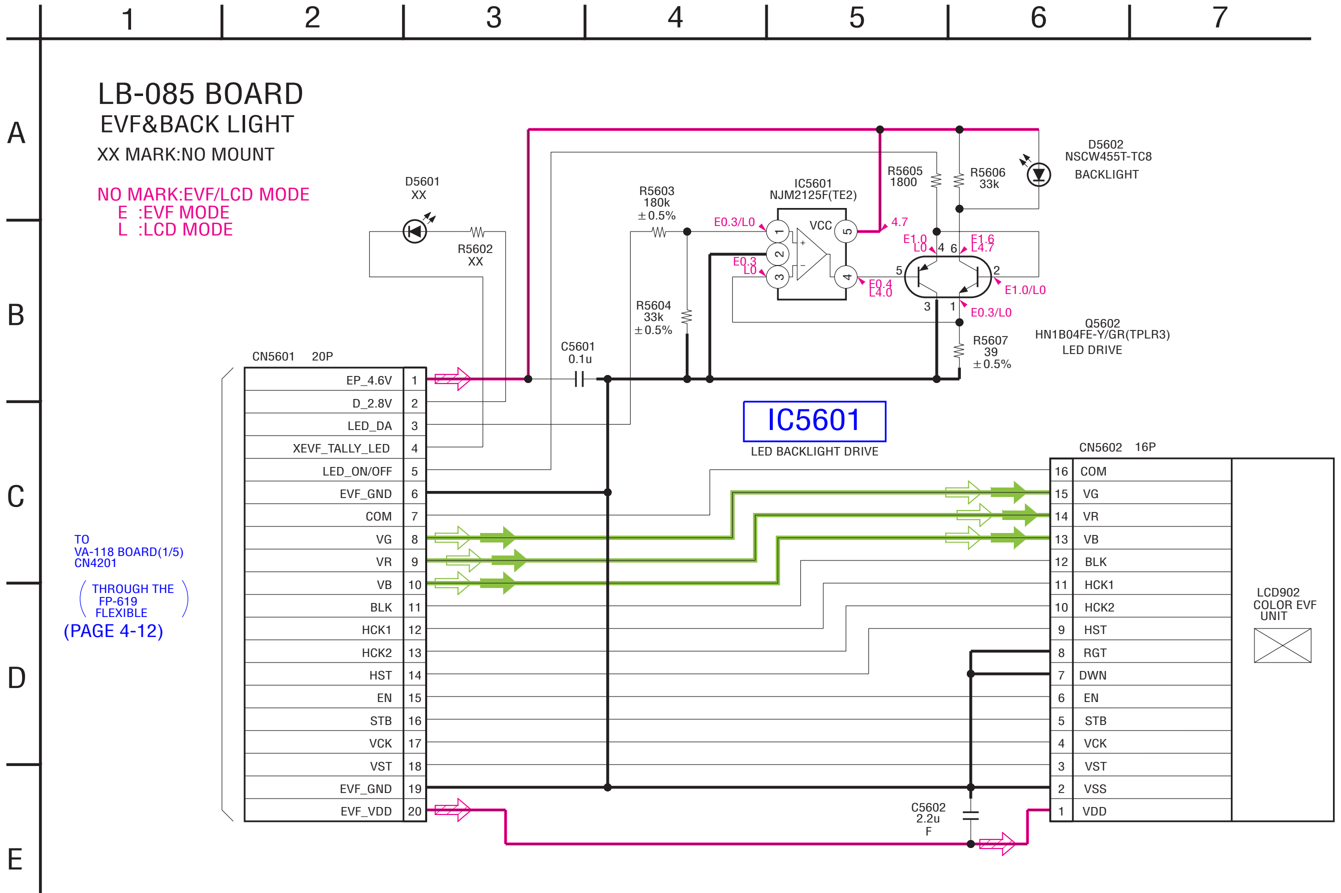
Precautions Upon Replacing CCD imager

- The CD-430 board mounted as a repair part is not equipped with a CCD imager.
  When replaching this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electrictiy from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strog light.

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			➡ ⇨
PB			

16


LB-085 BOARD
EVF&BACK LIGHT
XX MARK:NO MOUNT
NO MARK:EVF/LCD MODE
E :EVF MODE
L :LCD MODE
D5601 XX
R5602 XX
R5603 180k ±0.5%
R5604 33k ±0.5%
IC5601 NJM2125F(TE2)
R5605 1800
R5606 33k
D5602 NSCW455T-TC8 BACKLIGHT
Q5602 HN1B04FE-Y/GR(TPLR3) LED DRIVE
R5607 39 ±0.5%
C5601 0.1u
C5602 2.2u F
IC5601
LED BACKLIGHT DRIVE
CN5601 20P
EP_4.6V
D_2.8V
LED_DA
XEVF_TALLY_LED
LED_ON/OFF
EVF_GND
COM
VG
VR
VB
BLK
HCK1
HCK2
HST
EN
STB
VCK
VST
EVF_GND
EVF_VDD
CN5602 16P
COM
VG
VR
VB
BLK
HCK1
HCK2
HST
RGT
DWN
EN
STB
VCK
VST
VSS
VDD
LCD902 COLOR EVF UNIT
TO VA-118 BOARD(1/5) CN4201
THROUGH THE FP-619 FLEXIBLE
(PAGE 4-12)

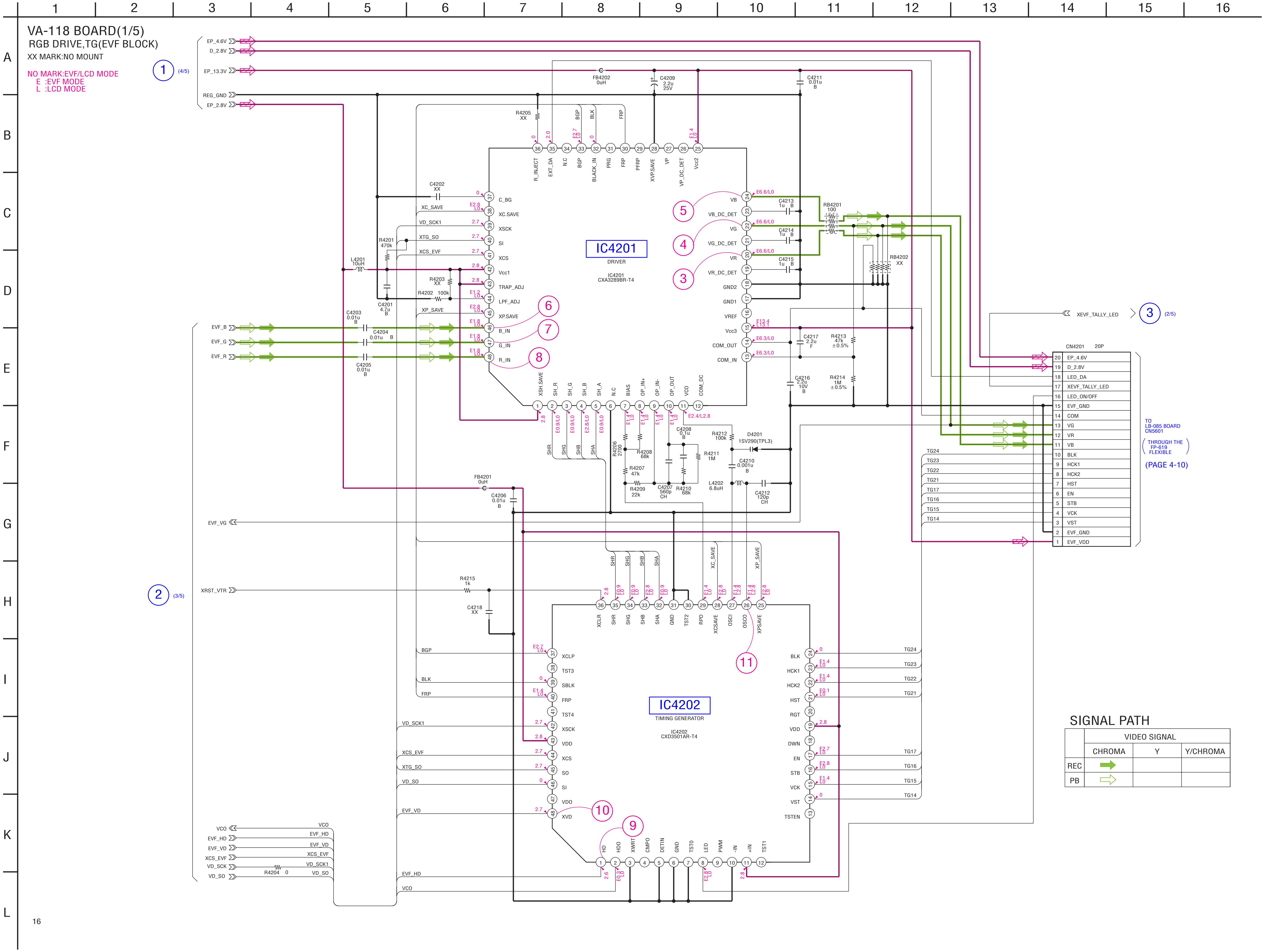
SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

16

For Schematic Diagram

- Refer to page 4-73 for printed wiring board.

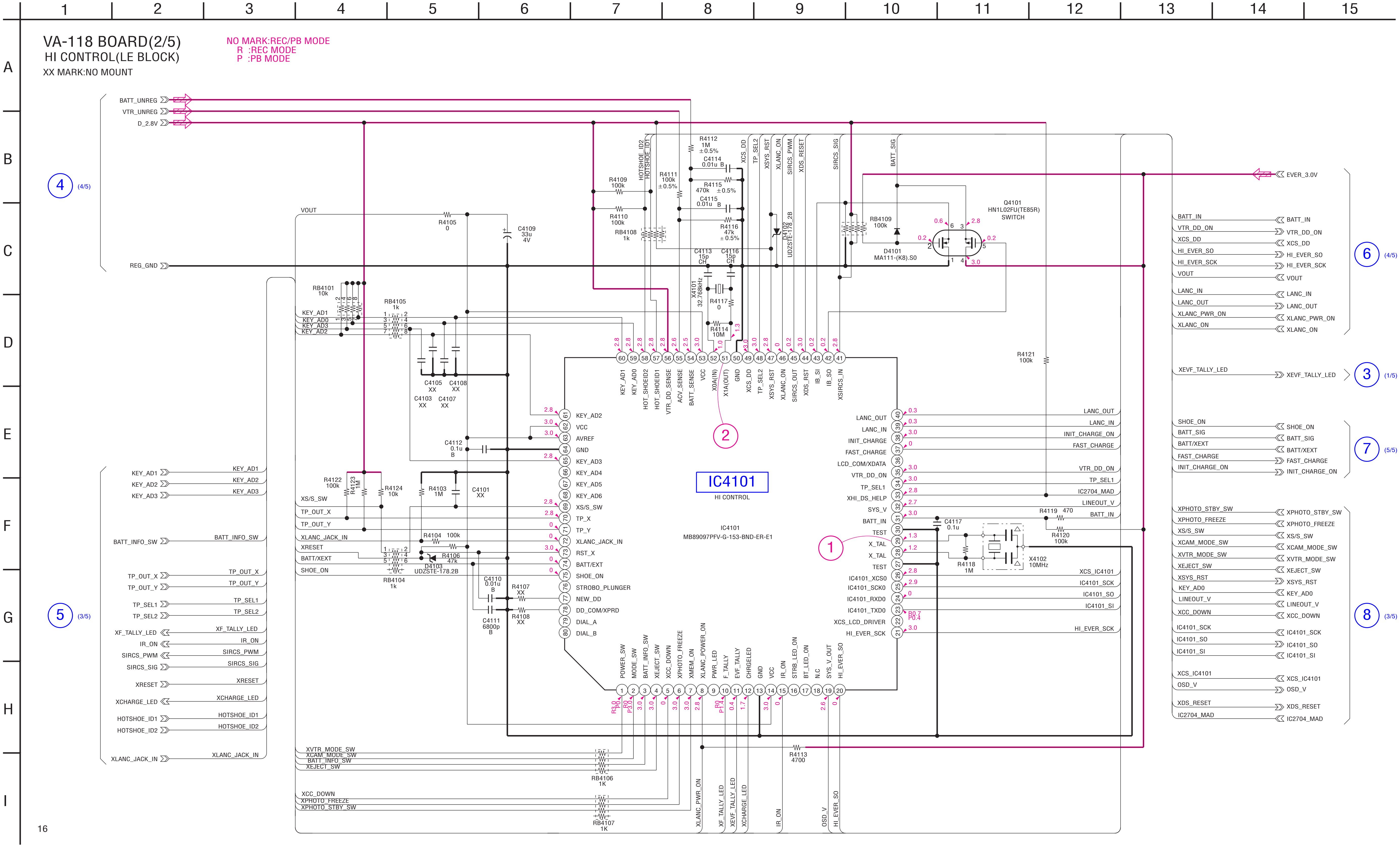

VA-118 BOARD(1/5)
RGB DRIVE,TG(EVF BLOCK)
XX MARK:NO MOUNT
NO MARK:EVF/LCD MODE
E :EVF MODE
L :LCD MODE
IC4201
DRIVER
IC4201 CXA3289BR-T4
IC4202
TIMING GENERATOR
IC4202 CXD3501AR-T4
CN4201 20P
1 EVF_VDD
2 EVF_GND
3 VST
4 VCK
5 STB
6 EN
7 HST
8 HCK2
9 HCK1
10 BLK
11 VB
12 VR
13 VG
14 COM
15 EVF_GND
16 LED_ON/OFF
17 XEVF_TALLY_LED
18 LED_DA
19 D_2.8V
20 EP_4.6V
TO LB-085 BOARD CN5601
THROUGH THE FP-619 FLEXIBLE
(PAGE 4-10)
EP_4.6V
D_2.8V
EP_13.3V
REG_GND
EP_2.8V
EVF_B
EVF_G
EVF_R
EVF_VG
XRST_VTR
XEVF_TALLY_LED
VCO
EVF_HD
EVF_VD
XCS_EVF
VD_SCK
VD_SO
(4/5)
(3/5)
(2/5)

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

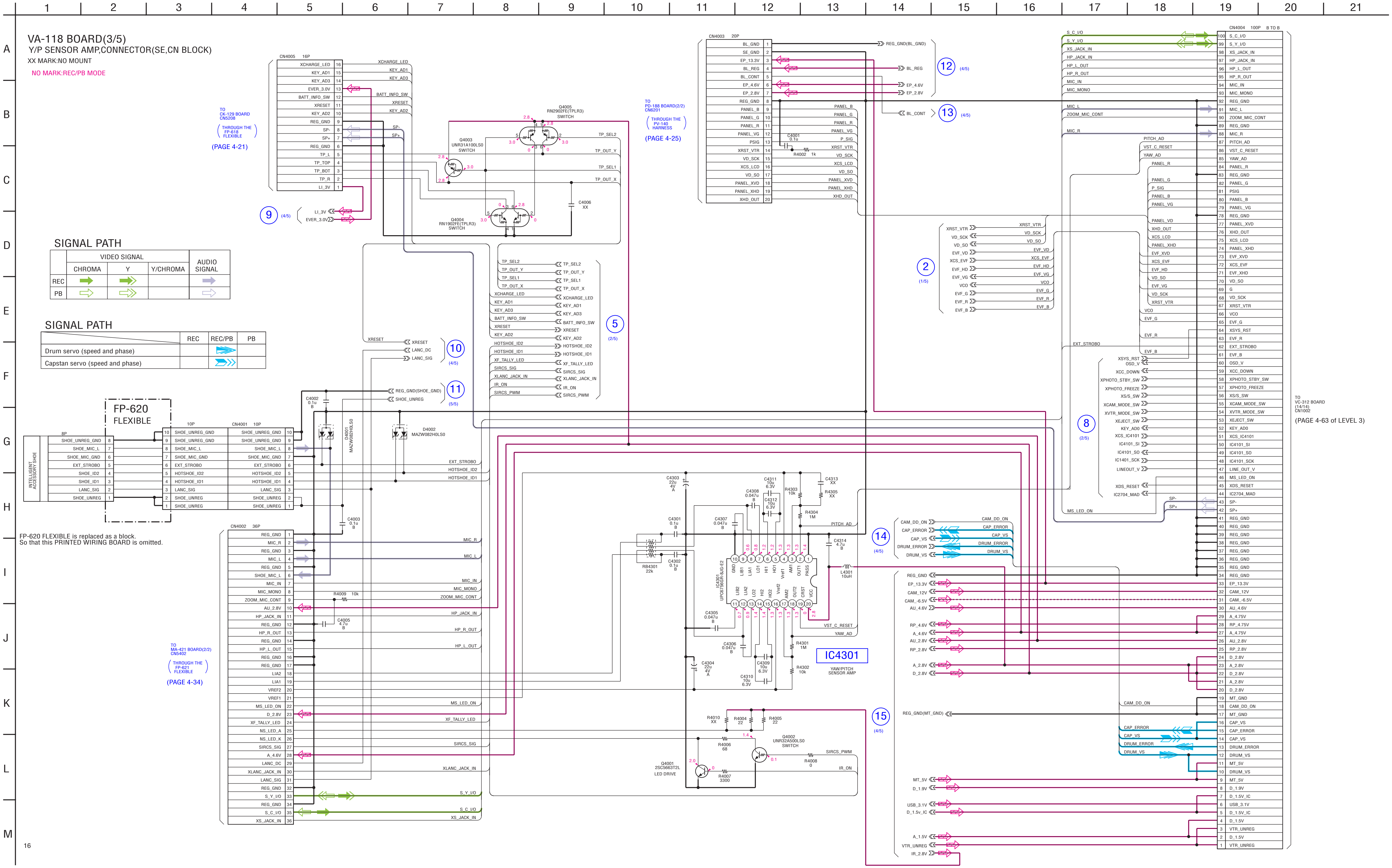
For Schematic Diagram

- Refer to page 4-73 for printed wiring board.


VA-118 BOARD(2/5)
HI CONTROL(LE BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
IC4101
HI CONTROL
IC4101
MB89097PFV-G-153-BND-ER-E1
Q4101
HN1L02FU(TE85R)
SWITCH
D4101
MA111-(K8).SO
X4101
32.768kHz
X4102
10MHz
D4103
UDZSTE-178.2B
D4102
UDZSTE-178.2B
BATT_UNREG
VTR_UNREG
D_2.8V
REG_GND
VOUT
EVER_3.0V
KEY_AD1
KEY_AD2
KEY_AD3
BATT_INFO_SW
TP_OUT_X
TP_OUT_Y
TP_SEL1
TP_SEL2
XF_TALLY_LED
IR_ON
SIRCS_PWM
SIRCS_SIG
XRESET
XCHARGE_LED
HOTSHOE_ID1
HOTSHOE_ID2
XLANC_JACK_IN
BATT_IN
VTR_DD_ON
XCS_DD
HI_EVER_SO
HI_EVER_SCK
LANC_IN
LANC_OUT
XLANC_PWR_ON
XLANC_ON
XEVF_TALLY_LED
SHOE_ON
BATT_SIG
BATT/XEXT
FAST_CHARGE
INIT_CHARGE_ON
XPHOTO_STBY_SW
XPHOTO_FREEZE
XS/S_SW
XCAM_MODE_SW
XVTR_MODE_SW
XEJECT_SW
XSYS_RST
KEY_AD0
LINEOUT_V
XCC_DOWN
IC4101_SCK
IC4101_SO
IC4101_SI
XCS_IC4101
OSD_V
XDS_RESET
IC2704_MAD
4 (4/5)
5 (3/5)
6 (4/5)
3 (1/5)
7 (5/5)
8 (3/5)
1
2
16

For Schematic Diagram

- Refer to page 4-73 for printed wiring board.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
A
B
C
D
E
F
G
H
I
J
K
L
M
VA-118 BOARD(3/5)
Y/P SENSOR AMP,CONNECTOR(SE,CN BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
TO CK-129 BOARD CN5208 THROUGH THE FP-618 FLEXIBLE (PAGE 4-21)
CN4005 16P
16 XCHARGE_LED
15 KEY_AD1
14 KEY_AD3
13 EVER_3.0V
12 BATT_INFO_SW
11 XRESET
10 KEY_AD2
9 REG_GND
8 SP-
7 SP+
6 REG_GND
5 TP_L
4 TP_TOP
3 TP_BOT
2 TP_R
1 LI_3V
Q4003 UNR31A100LS0 SWITCH
Q4005 RN2902FE(TPLR3) SWITCH
Q4004 RN1902FE(TPLR3) SWITCH
C4006 XX
TP_SEL2
TP_OUT_Y
TP_SEL1
TP_OUT_X
9 (4/5) LI_3V EVER_3.0V
5 (2/5)
10 (4/5) XRESET LANC_DC LANC_SIG
11 (5/5) REG_GND(SHOE_GND) SHOE_UNREG
TO PD-188 BOARD(2/2) CN6201 THROUGH THE PV-140 HARNESS (PAGE 4-25)
CN4003 20P
1 BL_GND
2 SE_GND
3 EP_13.3V
4 BL_REG
5 BL_CONT
6 EP_4.6V
7 EP_2.8V
8 REG_GND
9 PANEL_B
10 PANEL_G
11 PANEL_R
12 PANEL_VG
13 PSIG
14 XRST_VTR
15 VD_SCK
16 XCS_LCD
17 VD_SO
18 PANEL_XVD
19 PANEL_XHD
20 XHD_OUT
C4001 0.1u
R4002 1k
REG_GND(BL_GND)
12 (4/5) BL_REG EP_4.6V EP_2.8V
13 (4/5) BL_CONT
2 (1/5)
8 (2/5)
FP-620 FLEXIBLE
INTELLIGENT ACCESSORY SHOE
8P
CN4001 10P
10 SHOE_UNREG_GND
9 SHOE_UNREG_GND
8 SHOE_MIC_L
7 SHOE_MIC_GND
6 EXT_STROBO
5 HOTSHOE_ID2
4 HOTSHOE_ID1
3 LANC_SIG
2 SHOE_UNREG
1 SHOE_UNREG
C4002 0.1u B
C4003 0.1u B
D4001 MAZW082H0LS0
D4002 MAZW082H0LS0
CN4002 36P
1 REG_GND
2 MIC_R
3 REG_GND
4 MIC_L
5 REG_GND
6 SHOE_MIC_L
7 MIC_IN
8 MIC_MONO
9 ZOOM_MIC_CONT
10 AU_2.8V
11 HP_JACK_IN
12 REG_GND
13 HP_R_OUT
14 REG_GND
15 HP_L_OUT
16 REG_GND
17 REG_GND
18 LIA2
19 LIA1
20 VREF2
21 VREF1
22 MS_LED_ON
23 D_2.8V
24 XF_TALLY_LED
25 NS_LED_A
26 NS_LED_K
27 SIRCS_SIG
28 A_4.6V
29 LANC_DC
30 XLANC_JACK_IN
31 LANC_SIG
32 REG_GND
33 S_Y_I/O
34 REG_GND
35 S_C_I/O
36 XS_JACK_IN
TO MA-421 BOARD(2/2) CN5402 THROUGH THE FP-621 FLEXIBLE (PAGE 4-34)
R4009 10k
C4005 4.7u B
IC4301 YAW/PITCH SENSOR AMP
C4303 22u 4V A
C4308 0.047u B
C4311 10u 6.3V
C4312 10u 6.3V
R4303 10k
C4313 XX
R4305 XX
R4304 1M
C4301 0.1u B
C4307 0.047u B
C4314 4.7u B
C4302 0.1u B
RB4301 22k
L4301 10uH
C4305 0.047u B
C4306 0.047u B
C4304 22u 4V A
C4309 10u 6.3V
C4310 10u 6.3V
R4301 1M
R4302 10k
PITCH_AD
VST_C_RESET
YAW_AD
14 (4/5)
15 (4/5)
R4010 XX
R4004 22
R4005 22
R4006 68
R4007 3300
R4008 0
Q4001 2SC5663T2L LED DRIVE
Q4002 UNR32A500LS0 SWITCH
SIRCS_PWM
IR_ON
REG_GND(MT_GND)
CN4004 100P B TO B
100 S_C_I/O
99 S_Y_I/O
98 XS_JACK_IN
97 HP_JACK_IN
96 HP_L_OUT
95 HP_R_OUT
94 MIC_IN
93 MIC_MONO
92 REG_GND
91 MIC_L
90 ZOOM_MIC_CONT
89 REG_GND
88 MIC_R
87 PITCH_AD
86 VST_C_RESET
85 YAW_AD
84 PANEL_R
83 REG_GND
82 PANEL_G
81 PSIG
80 PANEL_B
79 PANEL_VG
78 REG_GND
77 PANEL_XVD
76 XHD_OUT
75 XCS_LCD
74 PANEL_XHD
73 EVF_XVD
72 XCS_EVF
71 EVF_XHD
70 VD_SO
69 G
68 VD_SCK
67 XRST_VTR
66 VCO
65 EVF_G
64 XSYS_RST
63 EVF_R
62 EXT_STROBO
61 EVF_B
60 OSD_V
59 XCC_DOWN
58 XPHOTO_STBY_SW
57 XPHOTO_FREEZE
56 XS/S_SW
55 XCAM_MODE_SW
54 XVTR_MODE_SW
53 XEJECT_SW
52 KEY_AD0
51 XCS_IC4101
50 IC4101_SI
49 IC4101_SO
48 IC4101_SCK
47 LINE_OUT_V
46 MS_LED_ON
45 XDS_RESET
44 IC2704_MAD
43 SP-
42 SP+
41 REG_GND
40 REG_GND
39 REG_GND
38 REG_GND
37 REG_GND
36 REG_GND
35 REG_GND
34 REG_GND
33 EP_13.3V
32 CAM_12V
31 CAM_-6.5V
30 AU_4.6V
29 A_4.75V
28 RP_4.75V
27 A_4.75V
26 AU_2.8V
25 RP_2.8V
24 D_2.8V
23 A_2.8V
22 D_2.8V
21 A_2.8V
20 D_2.8V
19 MT_GND
18 CAM_DD_ON
17 MT_GND
16 CAP_VS
15 CAP_ERROR
14 CAP_VS
13 DRUM_ERROR
12 DRUM_VS
11 MT_5V
10 DRUM_VS
9 MT_5V
8 D_1.9V
7 D_1.5V_IC
6 USB_3.1V
5 D_1.5V_IC
4 D_1.5V
3 VTR_UNREG
2 D_1.5V
1 VTR_UNREG
TO VC-312 BOARD (14/14) CN1002
(PAGE 4-63 of LEVEL 3)
16

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡		➡
PB	⇨	⇨		⇨

SIGNAL PATH

	REC	REC/PB	PB
Drum servo (speed and phase)		➡	
Capstan servo (speed and phase)		➡	

FP-620 FLEXIBLE is replaced as a block.
So that this PRINTED WIRING BOARD is omitted.

COVER

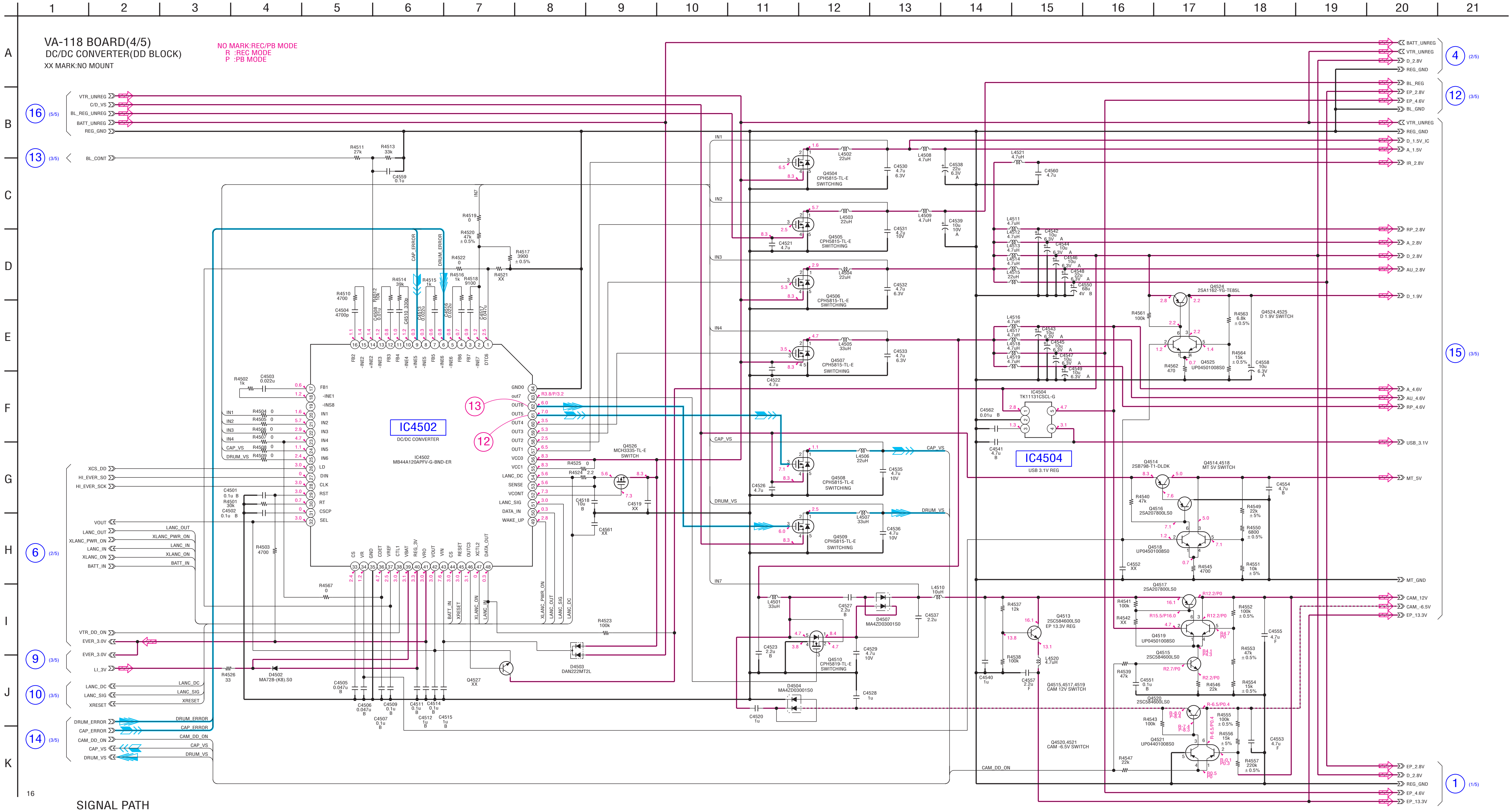
4-2. SCHEMATIC DIAGRAMS

VA-118 BOARD SIDE A

VA-118 BOARD SIDE B

For Schematic Diagram

- Refer to page 4-73 for printed wiring board.



VA-118 BOARD(4/5)
DC/DC CONVERTER(DD BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
IC4502
DC/DC CONVERTER
IC4502
MB44A120APFV-G-BND-ER
IC4504
USB 3.1V REG
IC4504
TK11131CSCL-G
Q4504 CPH5815-TL-E SWITCHING
Q4505 CPH5815-TL-E SWITCHING
Q4506 CPH5815-TL-E SWITCHING
Q4507 CPH5815-TL-E SWITCHING
Q4508 CPH5815-TL-E SWITCHING
Q4509 CPH5815-TL-E SWITCHING
Q4510 CPH5819-TL-E SWITCHING
Q4526 MCH3335-TL-E SWITCH
Q4524 2SA1162-YG-TE85L
Q4524,4525 D 1.9V SWITCH
Q4525 UP0450100850
Q4514 2SB798-T1-DLDK
Q4514,4518 MT 5V SWITCH
Q4516 2SA207800LS0
Q4518 UP0450100850
Q4517 2SA207800LS0
Q4513 2SC584600LS0 EP 13.3V REG
Q4519 UP0450100850
Q4515 2SC584600LS0
Q4515,4517,4519 CAM 12V SWITCH
Q4520 2SC584600LS0
Q4521 UP0440100850
Q4520,4521 CAM -6.5V SWITCH
D4502 MA728-(K8).S0
D4503 DAN222MT2L
D4504 MA4ZD03001S0
D4507 MA4ZD03001S0
Q4527 XX
BATT_UNREG
VTR_UNREG
D_2.8V
REG_GND
BL_REG
EP_2.8V
EP_4.6V
BL_GND
D_1.5V_IC
A_1.5V
IR_2.8V
RP_2.8V
A_2.8V
AU_2.8V
D_1.9V
A_4.6V
AU_4.6V
RP_4.6V
USB_3.1V
MT_5V
MT_GND
CAM_12V
CAM_-6.5V
EP_13.3V
EP_2.8V
D_2.8V
REG_GND
EP_4.6V
EP_13.3V
4 (2/5)
12 (3/5)
15 (3/5)
1 (1/5)
16 (5/5)
VTR_UNREG
C/D_VS
BL_REG_UNREG
BATT_UNREG
REG_GND
13 (3/5)
BL_CONT
XCS_DD
HI_EVER_SO
HI_EVER_SCK
VOUT
LANC_OUT
XLANC_PWR_ON
LANC_IN
XLANC_ON
BATT_IN
6 (2/5)
VTR_DD_ON
EVER_3.0V
9 (3/5)
EVER_3.0V
LI_3V
10 (3/5)
LANC_DC
LANC_SIG
XRESET
14 (3/5)
DRUM_ERROR
CAP_ERROR
CAM_DD_ON
CAP_VS
DRUM_VS
IN1
IN2
IN3
IN4
IN7
CAP_VS
DRUM_VS
CAM_DD_ON
16

SIGNAL PATH

	REC	REC/PB	PB
Drum servo (speed and phase)		⇛	
Capstan servo (speed and phase)		⇛	

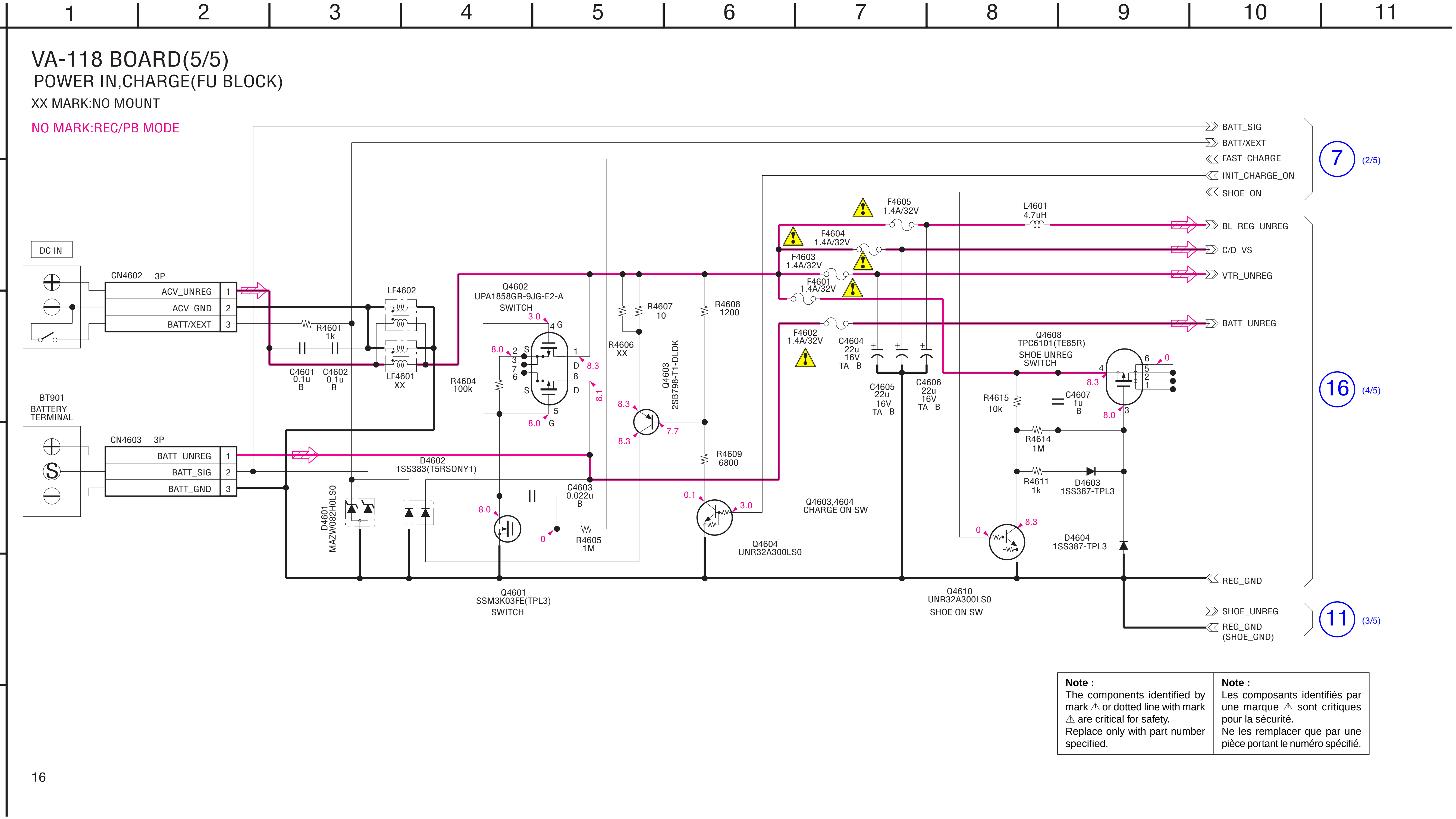
For Schematic Diagram
- Refer to page 4-73 for printed wiring board.

VA-118 BOARD(5/5)

POWER IN,CHARGE(FU BLOCK)

XX MARK:NO MOUNT

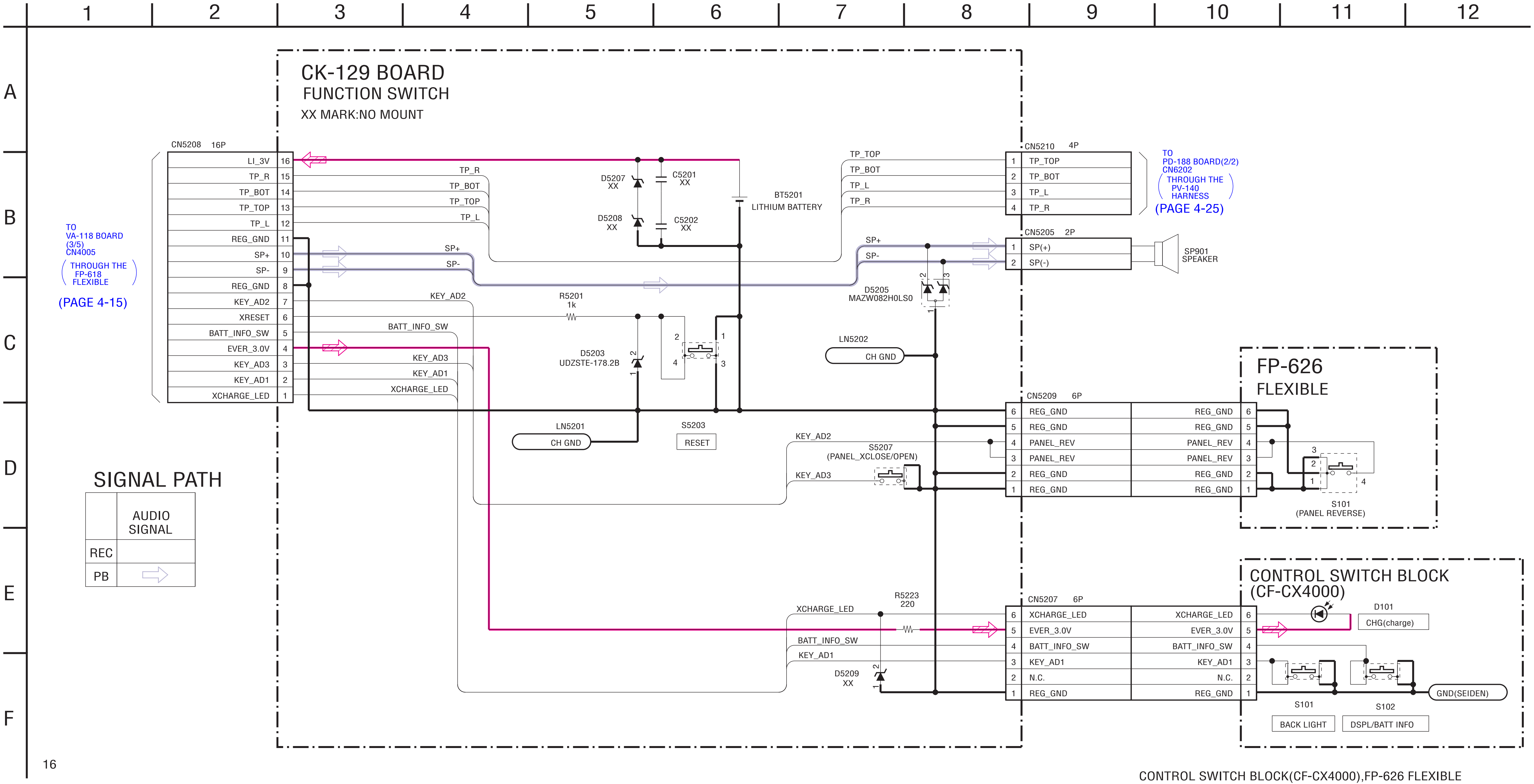
NO MARK:REC/PB MODE


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
DC IN
CN4602 3P
ACV_UNREG 1
ACV_GND 2
BATT/XEXT 3
BT901
BATTERY
TERMINAL
CN4603 3P
BATT_UNREG 1
BATT_SIG 2
BATT_GND 3
R4601
1k
C4601
0.1u
B
C4602
0.1u
B
LF4602
LF4601
XX
R4604
100k
Q4602
UPA1858GR-9JG-E2-A
SWITCH
3.0
8.0
8.3
8.1
8.0
R4606
XX
R4607
10
R4608
1200
Q4603
2SB798-T1-DLDK
8.3
7.7
8.3
R4609
6800
D4602
1SS383(T5RSONY1)
D4601
MAZW082H0LS0
C4603
0.022u
B
8.0
0
R4605
1M
Q4601
SSM3K03FE(TPL3)
SWITCH
0.1
3.0
Q4604
UNR32A300LS0
Q4603,4604
CHARGE ON SW
F4605
1.4A/32V
F4604
1.4A/32V
F4603
1.4A/32V
F4601
1.4A/32V
F4602
1.4A/32V
C4604
22u
16V
TA B
C4605
22u
16V
TA B
C4606
22u
16V
TA B
L4601
4.7uH
Q4608
TPC6101(TE85R)
SHOE UNREG
SWITCH
8.3
0
8.0
R4615
10k
C4607
1u
B
R4614
1M
R4611
1k
D4603
1SS387-TPL3
D4604
1SS387-TPL3
0
8.3
Q4610
UNR32A300LS0
SHOE ON SW
BATT_SIG
BATT/XEXT
FAST_CHARGE
INIT_CHARGE_ON
SHOE_ON
BL_REG_UNREG
C/D_VS
VTR_UNREG
BATT_UNREG
REG_GND
SHOE_UNREG
REG_GND
(SHOE_GND)
7 (2/5)
16 (4/5)
11 (3/5)

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

16

For Schematic Diagram
- Refer to page 4-77 for printed wiring board.



1
2
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8
9
10
11
12
A
B
C
D
E
F
CK-129 BOARD
FUNCTION SWITCH
XX MARK:NO MOUNT
CN5208 16P
LI_3V 16
TP_R 15
TP_BOT 14
TP_TOP 13
TP_L 12
REG_GND 11
SP+ 10
SP- 9
REG_GND 8
KEY_AD2 7
XRESET 6
BATT_INFO_SW 5
EVER_3.0V 4
KEY_AD3 3
KEY_AD1 2
XCHARGE_LED 1
TO VA-118 BOARD (3/5) CN4005
THROUGH THE FP-618 FLEXIBLE
(PAGE 4-15)
TP_R
TP_BOT
TP_TOP
TP_L
SP+
SP-
KEY_AD2
BATT_INFO_SW
KEY_AD3
KEY_AD1
XCHARGE_LED
D5207 XX
D5208 XX
C5201 XX
C5202 XX
BT5201 LITHIUM BATTERY
R5201 1k
D5203 UDZSTE-178.2B
S5203 RESET
LN5201 CH GND
LN5202 CH GND
D5205 MAZW082H0LS0
TP_TOP
TP_BOT
TP_L
TP_R
SP+
SP-
CN5210 4P
1 TP_TOP
2 TP_BOT
3 TP_L
4 TP_R
TO PD-188 BOARD(2/2) CN6202
THROUGH THE PV-140 HARNESS
(PAGE 4-25)
CN5205 2P
1 SP(+)
2 SP(-)
SP901 SPEAKER
KEY_AD2
S5207 (PANEL_XCLOSE/OPEN)
KEY_AD3
CN5209 6P
6 REG_GND
5 REG_GND
4 PANEL_REV
3 PANEL_REV
2 REG_GND
1 REG_GND
FP-626 FLEXIBLE
REG_GND 6
REG_GND 5
PANEL_REV 4
PANEL_REV 3
REG_GND 2
REG_GND 1
S101 (PANEL REVERSE)
XCHARGE_LED
R5223 220
BATT_INFO_SW
KEY_AD1
D5209 XX
CN5207 6P
6 XCHARGE_LED
5 EVER_3.0V
4 BATT_INFO_SW
3 KEY_AD1
2 N.C.
1 REG_GND
CONTROL SWITCH BLOCK (CF-CX4000)
XCHARGE_LED 6
EVER_3.0V 5
BATT_INFO_SW 4
KEY_AD1 3
N.C. 2
REG_GND 1
D101 CHG(charge)
S101 BACK LIGHT
S102 DSPL/BATT INFO
GND(SEIDEN)
16

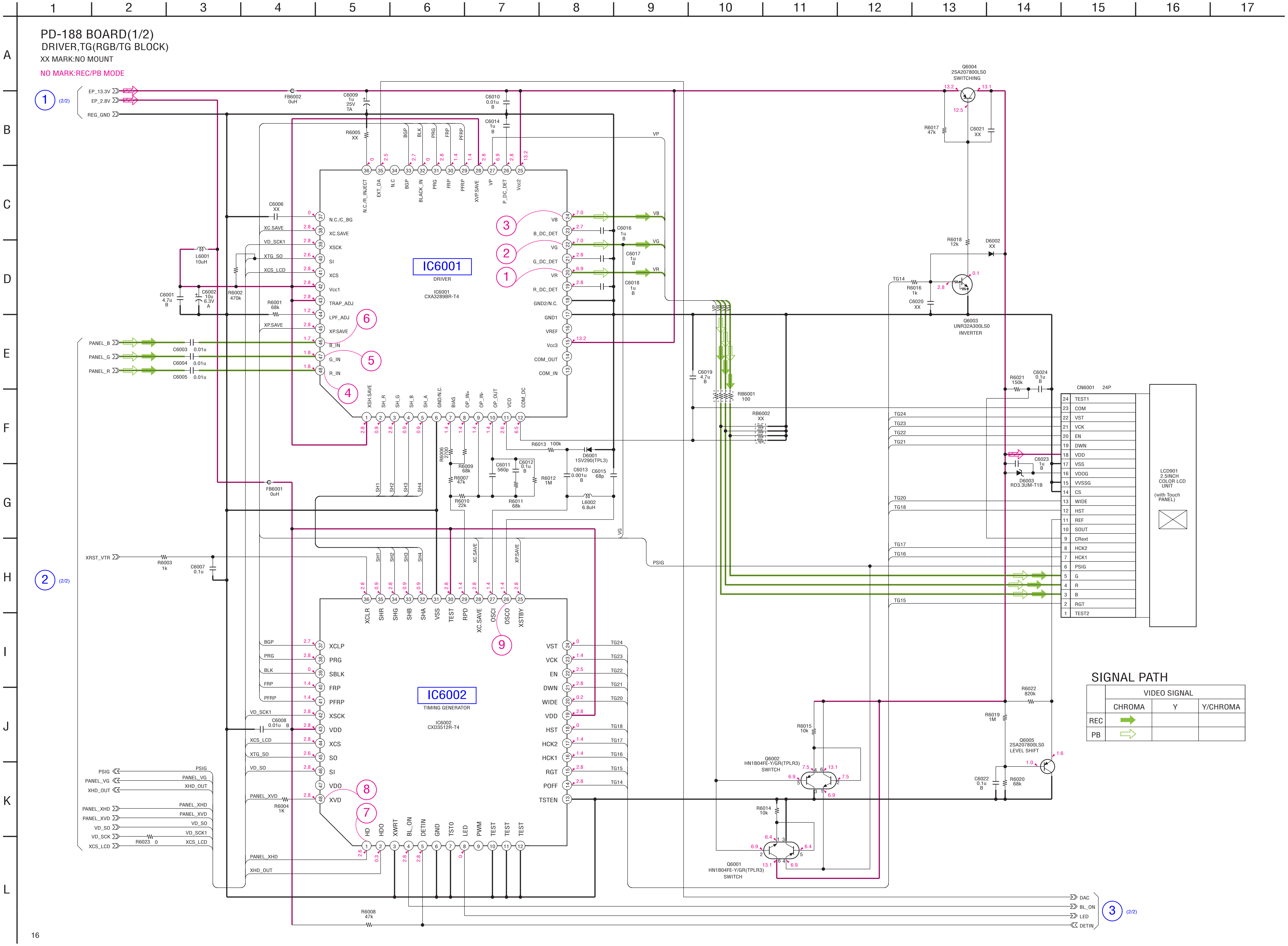
SIGNAL PATH

	AUDIO SIGNAL
REC	
PB	⇨

CONTROL SWITCH BLOCK(CF-CX4000),FP-626 FLEXIBLE
are replaced as a block.
So that this PRINTED WIRING BOARD is omitted.

For Schematic Diagram

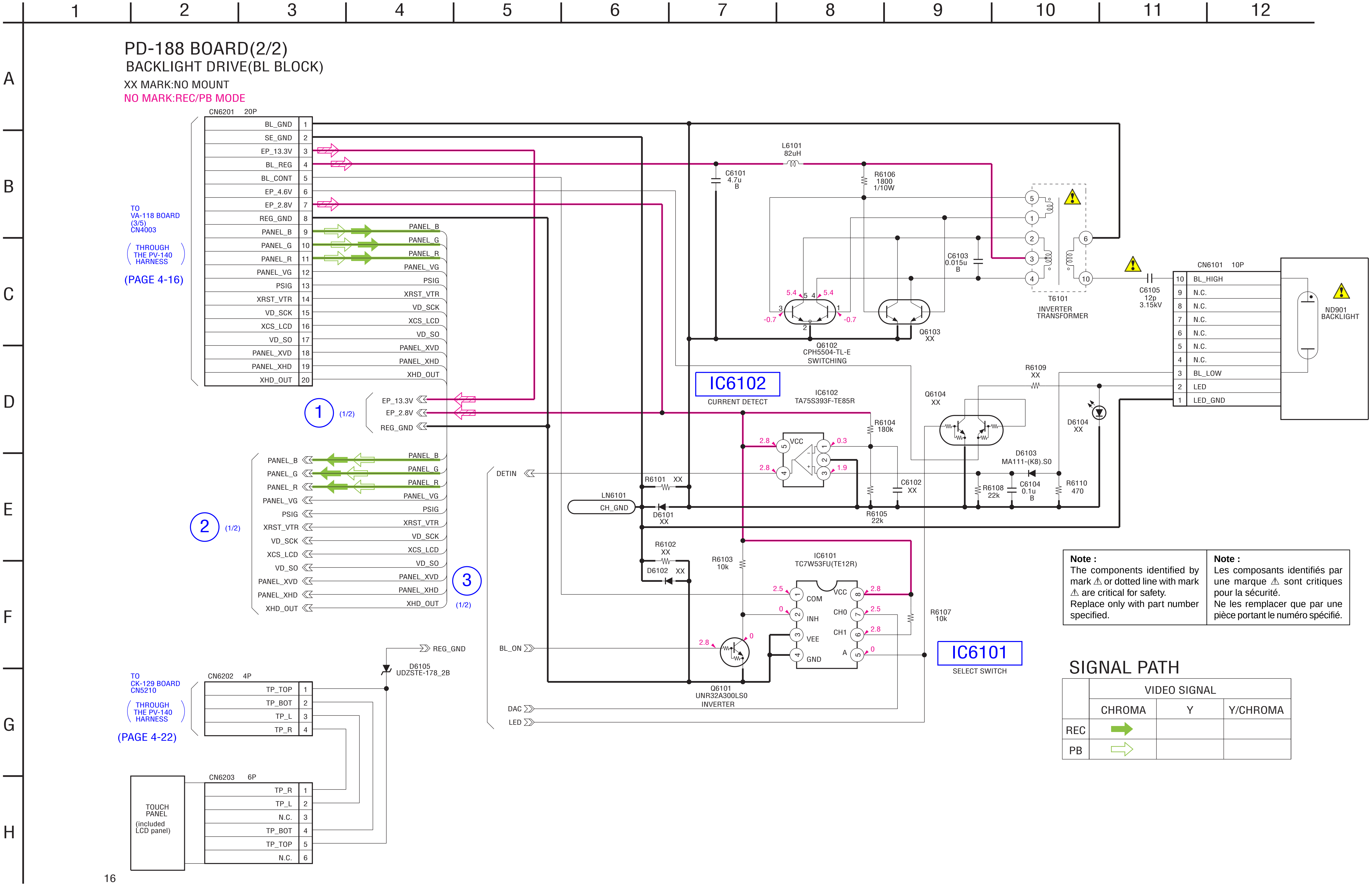
- Refer to page 4-79 for printed wiring board.


PD-188 BOARD(1/2)
DRIVER,TG(RGB/TG BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
IC6001
DRIVER
IC6001
CXA3289BR-T4
IC6002
TIMING GENERATOR
IC6002
CXD3512R-T4
Q6004
2SA207800LS0
SWITCHING
Q6003
UNR32A300LS0
INVERTER
Q6005
2SA207800LS0
LEVEL SHIFT
Q6002
HN1B04FE-Y/GR(TPLR3)
SWITCH
Q6001
HN1B04FE-Y/GR(TPLR3)
SWITCH
CN6001 24P
LCD901
2.5INCH
COLOR LCD
UNIT
(with Touch
PANEL)
EP_13.3V
EP_2.8V
REG_GND
PANEL_B
PANEL_G
PANEL_R
XRST_VTR
PSIG
PANEL_VG
XHD_OUT
PANEL_XHD
PANEL_XVD
VD_SO
VD_SCK
XCS_LCD
DAC
BL_ON
LED
DETIN
1 (2/2)
2 (2/2)
3 (2/2)
16

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

For Schematic Diagram
- Refer to page 4-79 for printed wiring board.

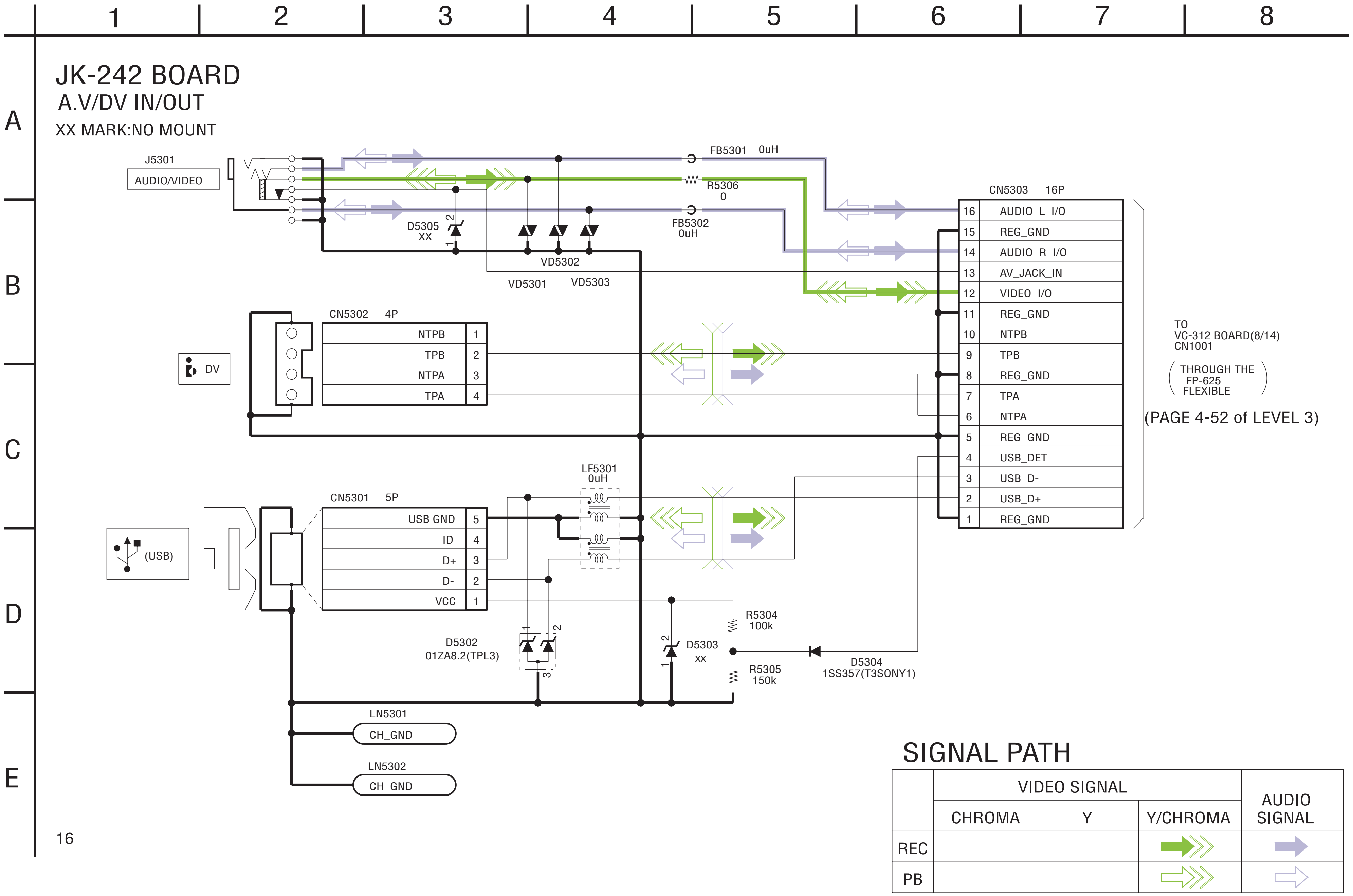

1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
PD-188 BOARD(2/2)
BACKLIGHT DRIVE(BL BLOCK)
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
CN6201 20P
BL_GND 1
SE_GND 2
EP_13.3V 3
BL_REG 4
BL_CONT 5
EP_4.6V 6
EP_2.8V 7
REG_GND 8
PANEL_B 9
PANEL_G 10
PANEL_R 11
PANEL_VG 12
PSIG 13
XRST_VTR 14
VD_SCK 15
XCS_LCD 16
VD_SO 17
PANEL_XVD 18
PANEL_XHD 19
XHD_OUT 20
TO VA-118 BOARD (3/5) CN4003
THROUGH THE PV-140 HARNESS
(PAGE 4-16)
1 (1/2)
EP_13.3V
EP_2.8V
REG_GND
2 (1/2)
3 (1/2)
DETIN
LN6101
CH_GND
L6101 82uH
C6101 4.7u B
R6106 1800 1/10W
C6103 0.015u B
T6101 INVERTER TRANSFORMER
Q6102 CPH5504-TL-E SWITCHING
Q6103 XX
C6105 12p 3.15kV
CN6101 10P
10 BL_HIGH
9 N.C.
8 N.C.
7 N.C.
6 N.C.
5 N.C.
4 N.C.
3 BL_LOW
2 LED
1 LED_GND
ND901 BACKLIGHT
IC6102 CURRENT DETECT
IC6102 TA75S393F-TE85R
R6104 180k
Q6104 XX
R6109 XX
D6104 XX
D6103 MA111-(K8).S0
R6108 22k
C6104 0.1u B
R6110 470
C6102 XX
R6105 22k
R6101 XX
D6101 XX
R6102 XX
D6102 XX
R6103 10k
IC6101 TC7W53FU(TE12R)
COM
INH
VEE
GND
VCC
CH0
CH1
A
R6107 10k
IC6101 SELECT SWITCH
Q6101 UNR32A300LS0 INVERTER
BL_ON
DAC
LED
REG_GND
D6105 UDZSTE-17B_2B
TO CK-129 BOARD CN5210
THROUGH THE PV-140 HARNESS
(PAGE 4-22)
CN6202 4P
TP_TOP 1
TP_BOT 2
TP_L 3
TP_R 4
CN6203 6P
TP_R 1
TP_L 2
N.C. 3
TP_BOT 4
TP_TOP 5
N.C. 6
TOUCH PANEL (included LCD panel)
16

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

For Schematic Diagram
- Refer to page 4-81 for printed wiring board.


1
2
3
4
5
6
7
8
A
B
C
D
E
JK-242 BOARD
A.V/DV IN/OUT
XX MARK:NO MOUNT
J5301
AUDIO/VIDEO
FB5301 0uH
R5306 0
FB5302 0uH
D5305 XX
VD5302
VD5301
VD5303
CN5303 16P
16 AUDIO_L_I/O
15 REG_GND
14 AUDIO_R_I/O
13 AV_JACK_IN
12 VIDEO_I/O
11 REG_GND
10 NTPB
9 TPB
8 REG_GND
7 TPA
6 NTPA
5 REG_GND
4 USB_DET
3 USB_D-
2 USB_D+
1 REG_GND
TO VC-312 BOARD(8/14) CN1001
THROUGH THE FP-625 FLEXIBLE
(PAGE 4-52 of LEVEL 3)
CN5302 4P
NTPB 1
TPB 2
NTPA 3
TPA 4
DV
LF5301 0uH
CN5301 5P
USB GND 5
ID 4
D+ 3
D- 2
VCC 1
(USB)
D5302
01ZA8.2(TPL3)
D5303 xx
R5304 100k
R5305 150k
D5304
1SS357(T3SONY1)
LN5301
CH_GND
LN5302
CH_GND
16

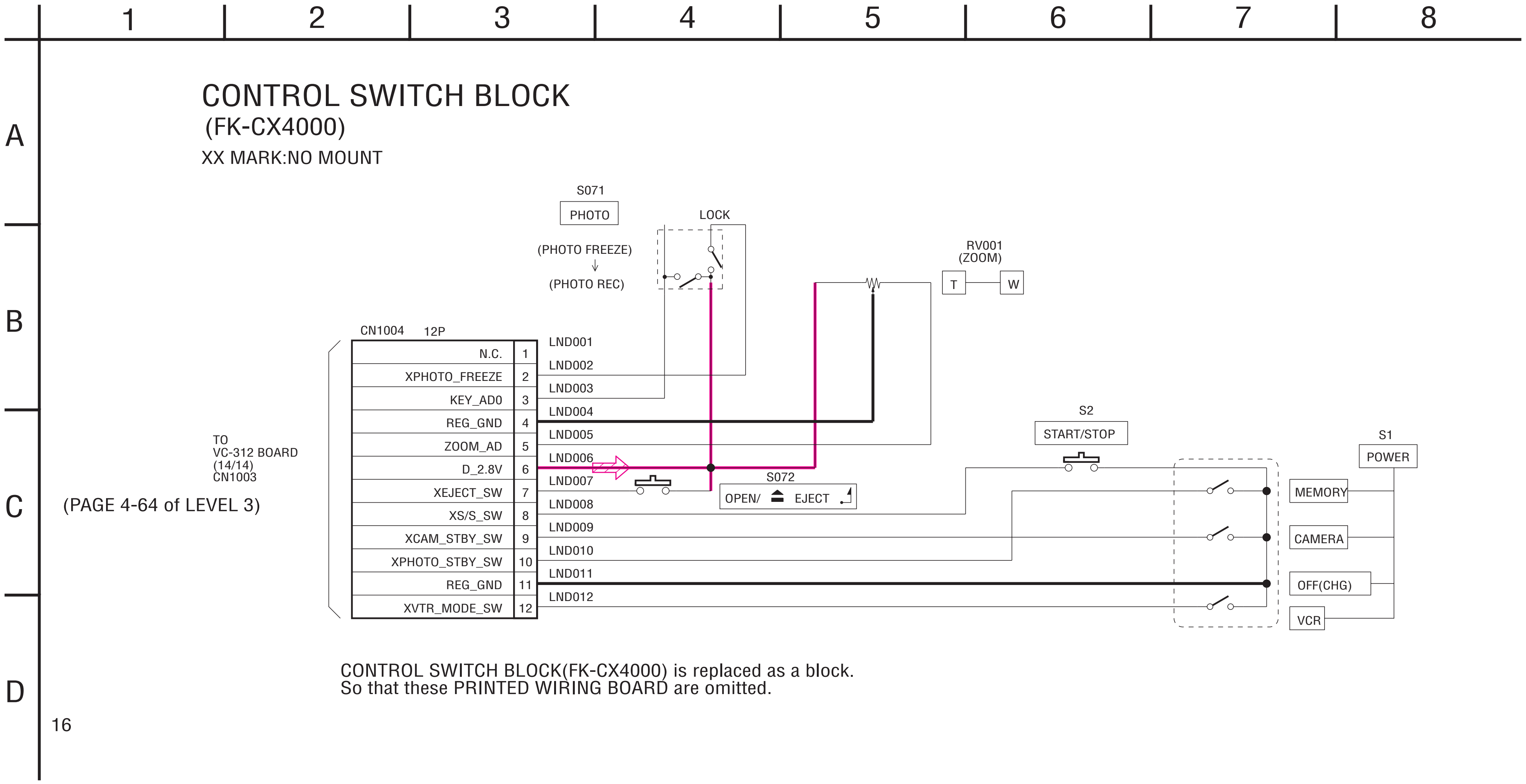
SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡	➡
PB			⇨	⇨

CONTROL SWITCH BLOCK

(FK-CX4000)

XX MARK:NO MOUNT

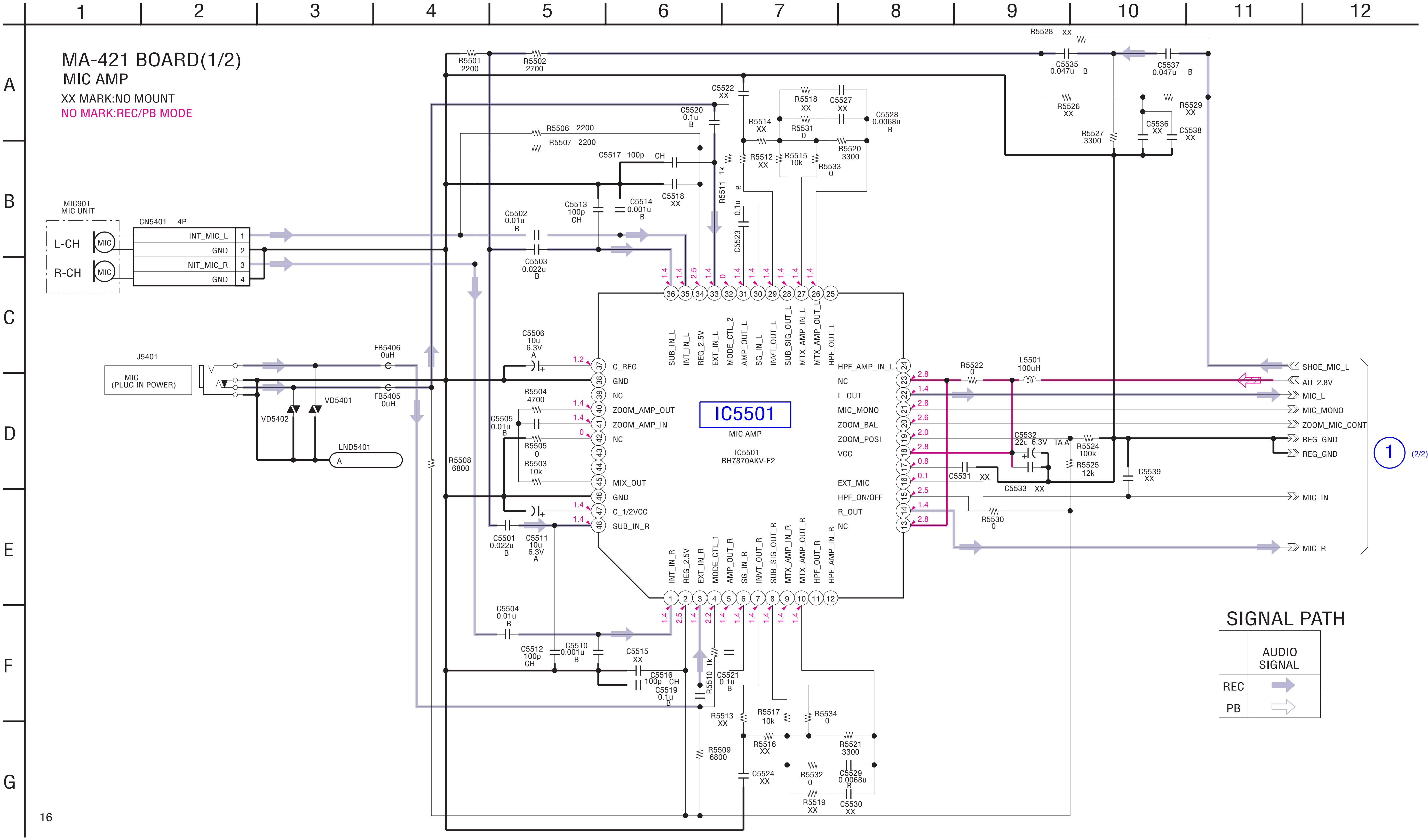

1
2
3
4
5
6
7
8
A
B
C
D
S071
PHOTO
(PHOTO FREEZE)
↓
(PHOTO REC)
LOCK
RV001
(ZOOM)
T
W
CN1004 12P
N.C. 1
XPHOTO_FREEZE 2
KEY_AD0 3
REG_GND 4
ZOOM_AD 5
D_2.8V 6
XEJECT_SW 7
XS/S_SW 8
XCAM_STBY_SW 9
XPHOTO_STBY_SW 10
REG_GND 11
XVTR_MODE_SW 12
LND001
LND002
LND003
LND004
LND005
LND006
LND007
LND008
LND009
LND010
LND011
LND012
TO
VC-312 BOARD
(14/14)
CN1003
(PAGE 4-64 of LEVEL 3)
S072
OPEN/ ⏏ EJECT
S2
START/STOP
S1
POWER
MEMORY
CAMERA
OFF(CHG)
VCR

CONTROL SWITCH BLOCK(FK-CX4000) is replaced as a block.
So that these PRINTED WIRING BOARD are omitted.

16

For Schematic Diagram

- Refer to page 4-83 for printed wiring board.


1
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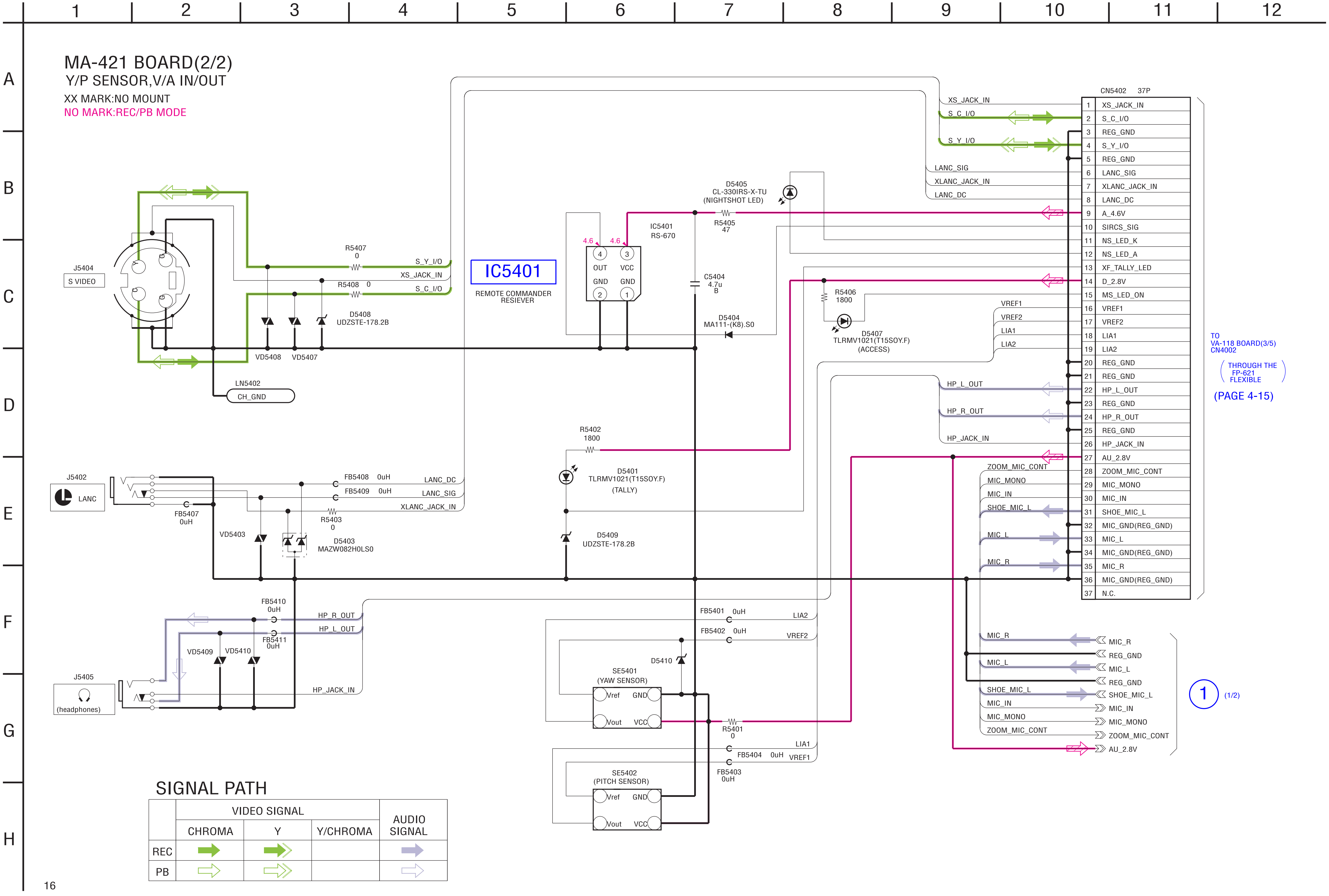
7
8
9
10
11
12
A
B
C
D
E
F
G
MA-421 BOARD(1/2)
MIC AMP
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
MIC901
MIC UNIT
L-CH
R-CH
MIC
CN5401 4P
INT_MIC_L
GND
NIT_MIC_R
GND
J5401
MIC
(PLUG IN POWER)
VD5401
VD5402
LND5401
A
FB5406
0uH
FB5405
0uH
R5501
2200
R5502
2700
R5506 2200
R5507 2200
C5517 100p CH
C5502
0.01u
B
C5503
0.022u
B
C5513
100p
CH
C5514
0.001u
B
C5518
XX
C5520
0.1u
B
C5522
XX
R5511 1k
C5523 0.1u B
R5514
XX
R5518
XX
C5527
XX
R5531
0
C5528
0.0068u
B
R5512
XX
R5515
10k
R5520
3300
R5533
0
R5528 XX
C5535
0.047u B
C5537
0.047u B
R5526
XX
R5529
XX
R5527
3300
C5536
XX
C5538
XX
C5506
10u
6.3V
A
R5504
4700
C5505
0.01u
B
R5505
0
R5503
10k
C5501
0.022u
B
C5511
10u
6.3V
A
R5508
6800
IC5501
MIC AMP
IC5501
BH7870AKV-E2
C_REG
GND
NC
ZOOM_AMP_OUT
ZOOM_AMP_IN
NC
MIX_OUT
GND
C_1/2VCC
SUB_IN_R
SUB_IN_L
INT_IN_L
REG_2.5V
EXT_IN_L
MODE_CTL_2
AMP_OUT_L
SG_IN_L
INVT_OUT_L
SUB_SIG_OUT_L
MTX_AMP_IN_L
MTX_AMP_OUT_L
HPF_OUT_L
HPF_AMP_IN_L
NC
L_OUT
MIC_MONO
ZOOM_BAL
ZOOM_POSI
VCC
EXT_MIC
HPF_ON/OFF
R_OUT
NC
INT_IN_R
REG_2.5V
EXT_IN_R
MODE_CTL_1
AMP_OUT_R
SG_IN_R
INVT_OUT_R
SUB_SIG_OUT_R
MTX_AMP_IN_R
MTX_AMP_OUT_R
HPF_OUT_R
HPF_AMP_IN_R
R5522
0
L5501
100uH
C5532
22u 6.3V TA A
R5524
100k
R5525
12k
C5531 XX
C5533 XX
C5539
XX
R5530
0
SHOE_MIC_L
AU_2.8V
MIC_L
MIC_MONO
ZOOM_MIC_CONT
REG_GND
REG_GND
MIC_IN
MIC_R
1
(2/2)
C5504
0.01u
B
C5512
100p
CH
C5510
0.001u
B
C5515
XX
C5516
100p CH
C5519
0.1u
B
R5510 1k
C5521
0.1u
B
R5513
XX
R5509
6800
R5517
10k
R5534
0
R5516
XX
R5521
3300
C5524
XX
R5532
0
C5529
0.0068u
B
R5519
XX
C5530
XX
16
SIGNAL PATH
AUDIO SIGNAL
REC
PB

For Schematic Diagram
- Refer to page 4-83 for printed wiring board.

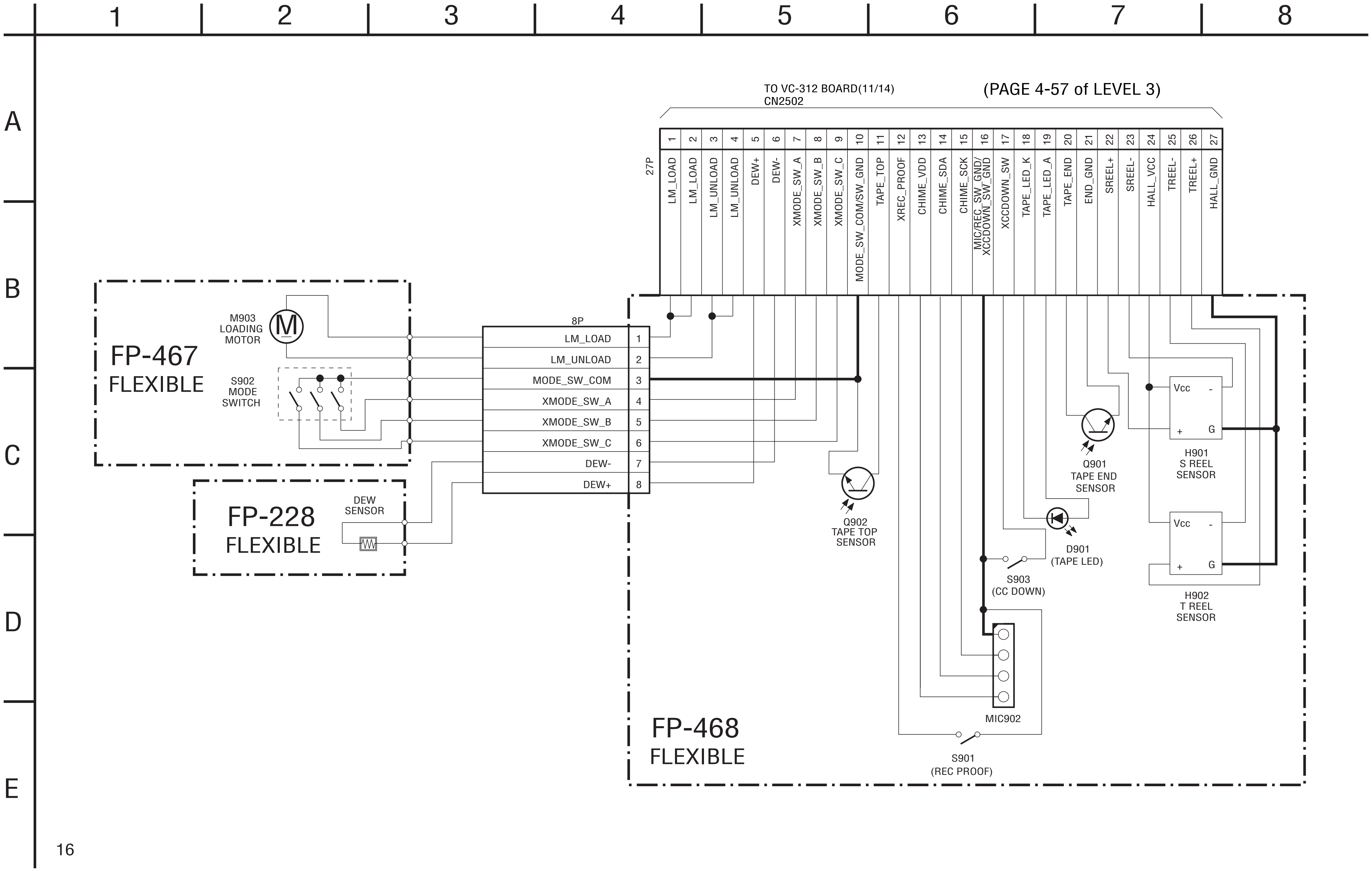

1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
MA-421 BOARD(2/2)
Y/P SENSOR,V/A IN/OUT
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
J5404
S VIDEO
R5407
0
S_Y_I/O
XS_JACK_IN
R5408 0
S_C_I/O
D5408
UDZSTE-178.2B
VD5408
VD5407
LN5402
CH_GND
IC5401
REMOTE COMMANDER
RESIEVER
4.6
4.6
OUT
VCC
GND
GND
IC5401
RS-670
D5405
CL-330IRS-X-TU
(NIGHTSHOT LED)
R5405
47
C5404
4.7u
B
R5406
1800
D5404
MA111-(K8).S0
D5407
TLRMV1021(T15SOY.F)
(ACCESS)
R5402
1800
D5401
TLRMV1021(T15SOY.F)
(TALLY)
D5409
UDZSTE-178.2B
J5402
LANC
FB5407
0uH
FB5408 0uH
LANC_DC
FB5409 0uH
LANC_SIG
XLANC_JACK_IN
R5403
0
VD5403
D5403
MAZW082H0LS0
FB5410
0uH
HP_R_OUT
HP_L_OUT
FB5411
0uH
VD5409
VD5410
J5405
(headphones)
HP_JACK_IN
FB5401 0uH
LIA2
FB5402 0uH
VREF2
D5410
SE5401
(YAW SENSOR)
Vref
GND
Vout
VCC
R5401
0
LIA1
FB5404 0uH
VREF1
FB5403
0uH
SE5402
(PITCH SENSOR)
CN5402 37P
1 XS_JACK_IN
2 S_C_I/O
3 REG_GND
4 S_Y_I/O
5 REG_GND
6 LANC_SIG
7 XLANC_JACK_IN
8 LANC_DC
9 A_4.6V
10 SIRCS_SIG
11 NS_LED_K
12 NS_LED_A
13 XF_TALLY_LED
14 D_2.8V
15 MS_LED_ON
16 VREF1
17 VREF2
18 LIA1
19 LIA2
20 REG_GND
21 REG_GND
22 HP_L_OUT
23 REG_GND
24 HP_R_OUT
25 REG_GND
26 HP_JACK_IN
27 AU_2.8V
28 ZOOM_MIC_CONT
29 MIC_MONO
30 MIC_IN
31 SHOE_MIC_L
32 MIC_GND(REG_GND)
33 MIC_L
34 MIC_GND(REG_GND)
35 MIC_R
36 MIC_GND(REG_GND)
37 N.C.
TO
VA-118 BOARD(3/5)
CN4002
THROUGH THE
FP-621
FLEXIBLE
(PAGE 4-15)
MIC_R
REG_GND
MIC_L
REG_GND
SHOE_MIC_L
MIC_IN
MIC_MONO
ZOOM_MIC_CONT
AU_2.8V
①
(1/2)
16

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	⇛		➡
PB	⇨	⇛		⇨

For Schematic Diagram

- Refer to page 4-71 for flexible wiring board.


1
2
3
4
5
6
7
8
A
B
C
D
E
TO VC-312 BOARD(11/14)
CN2502
(PAGE 4-57 of LEVEL 3)
27P
1 LM_LOAD
2 LM_LOAD
3 LM_UNLOAD
4 LM_UNLOAD
5 DEW+
6 DEW-
7 XMODE_SW_A
8 XMODE_SW_B
9 XMODE_SW_C
10 MODE_SW_COM/SW_GND
11 TAPE_TOP
12 XREC_PROOF
13 CHIME_VDD
14 CHIME_SDA
15 CHIME_SCK
16 MIC/REC_SW_GND/ XCCDOWN_SW_GND
17 XCCDOWN_SW
18 TAPE_LED_K
19 TAPE_LED_A
20 TAPE_END
21 END_GND
22 SREEL+
23 SREEL-
24 HALL_VCC
25 TREEL-
26 TREEL+
27 HALL_GND
FP-467
FLEXIBLE
M903
LOADING
MOTOR
M
S902
MODE
SWITCH
8P
LM_LOAD 1
LM_UNLOAD 2
MODE_SW_COM 3
XMODE_SW_A 4
XMODE_SW_B 5
XMODE_SW_C 6
DEW- 7
DEW+ 8
FP-228
FLEXIBLE
DEW
SENSOR
Q902
TAPE TOP
SENSOR
Q901
TAPE END
SENSOR
D901
(TAPE LED)
S903
(CC DOWN)
Vcc
-
+
G
H901
S REEL
SENSOR
H902
T REEL
SENSOR
MIC902
S901
(REC PROOF)
FP-468
FLEXIBLE
16

Schematic diagram of the VC-312 board are not shown.
Pages from 4-37 to 4-64 are not shown.

COVER

4-3. PRINTED WIRING BOARDS

Link

- CD-430 BOARD
- LB-085 BOARD
- FP-626 FLEXIBLE BOARD
- FP-467/468/228 FLEXIBLE BOARD (MD BLOCK)
- VA-118 BOARD (SIDE A)
- VA-118 BOARD (SIDE B)
- CK-129 BOARD
- PD-188 BOARD
- JK-242 BOARD
- MA-421 BOARD

- COMMON NOTE FOR PRINTED WIRING BOARDS
- WAVEFORMS
- MOUNTED PARTS LOCATION
- CIRCUIT BOARDS LOCATION
- FLEXIBLE BOARDS LOCATION

COVER

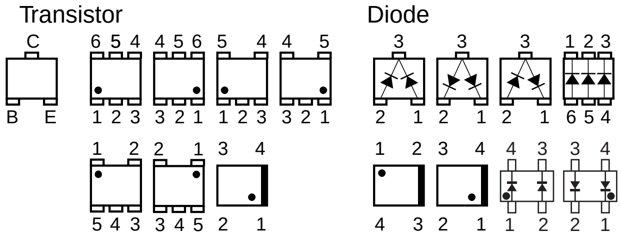
4-3. PRINTED WIRING BOARDS

THIS NOTE IS COMMON FOR WIRING BOARDS
(In addition to this, the necessary note is printed in each block)

(For printed wiring boards)

- LF : Uses unleaded solder.
- 🟩 : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are a few cases that the part printed on diagram isn't mounted in this model.
- ☐ : panel designation

- Chip parts.


Transistor
Diode
C
B E
6 5 4
1 2 3
4 5 6
3 2 1
5 4
1 2 3
4 5
3 2 1
1 2
5 4 3
2 1
3 4 5
3 4
2 1
3
2 1
3
2 1
3
2 1
1 2 3
6 5 4
1 2
4 3
3 4
2 1
4 3
1 2
3 4
2 1

BOARD INFORMATION

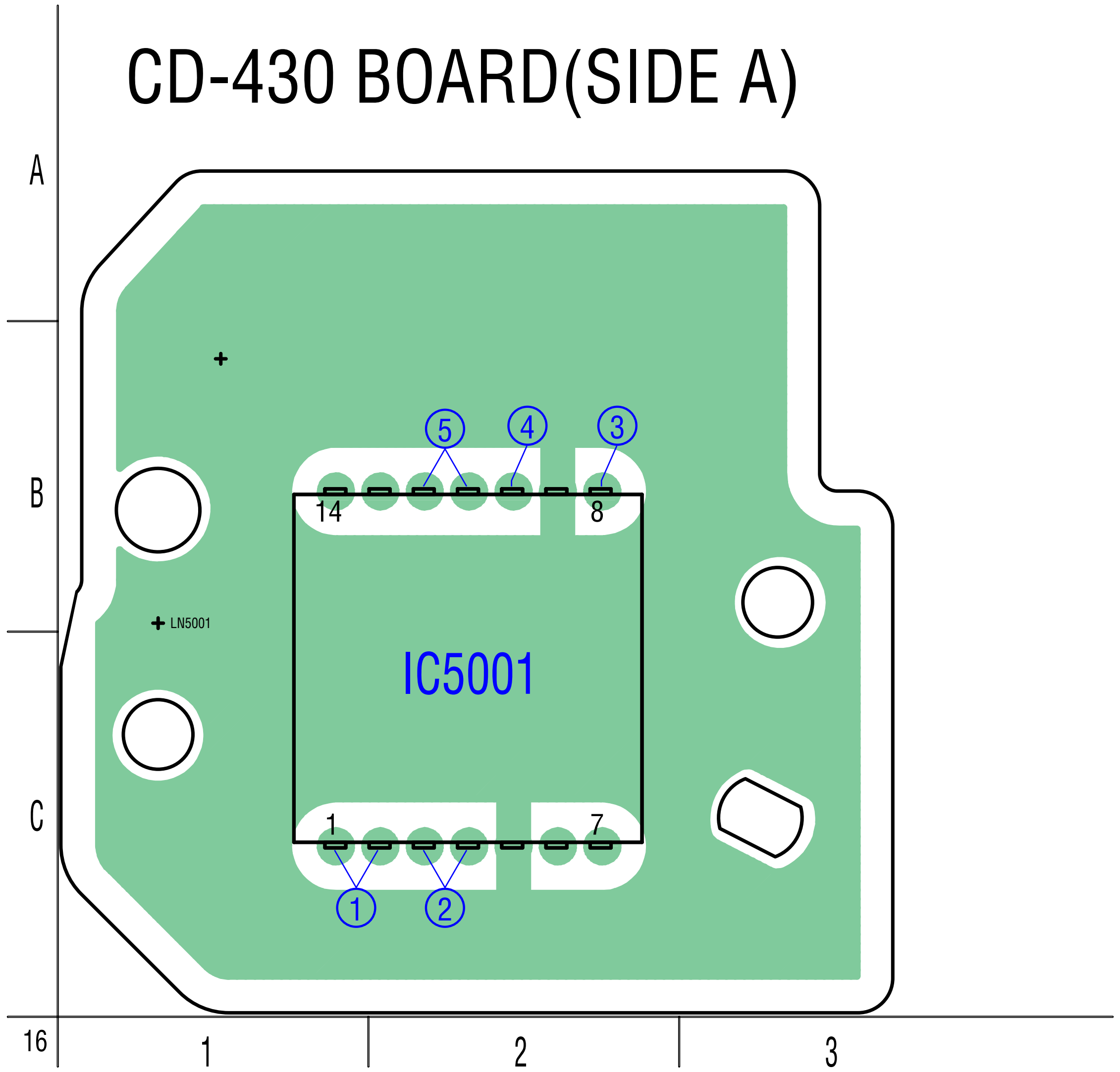
board name	parts location (shown on page)	waveform (shown on page)	pattern		CSP IC
			number of layers	layers not shown	
CD-430	4-93	4-89	6	2 to 5	–
LB-085	4-93	–	6	2 to 5	–
FP-626 FLEXIBLE	–	–	1	–	–
VA-118	4-93	4-89	6	2 to 5	–
CK-129	4-94	–	6	2 to 5	–
PD-188	4-94	4-90	6	2 to 5	–
JK-242	4-94	–	6	2 to 5	–
MA-421	4-94	–	6	2 to 5	–
VC-312	4-95	4-91,4-92	8	2 to 7	IC2101, 2201, 2301, 2601, 2704, 2803

4-3. PRINTED WIRING BOARDS

CD-430 (CCD IMAGER) PRINTED WIRING BOARD

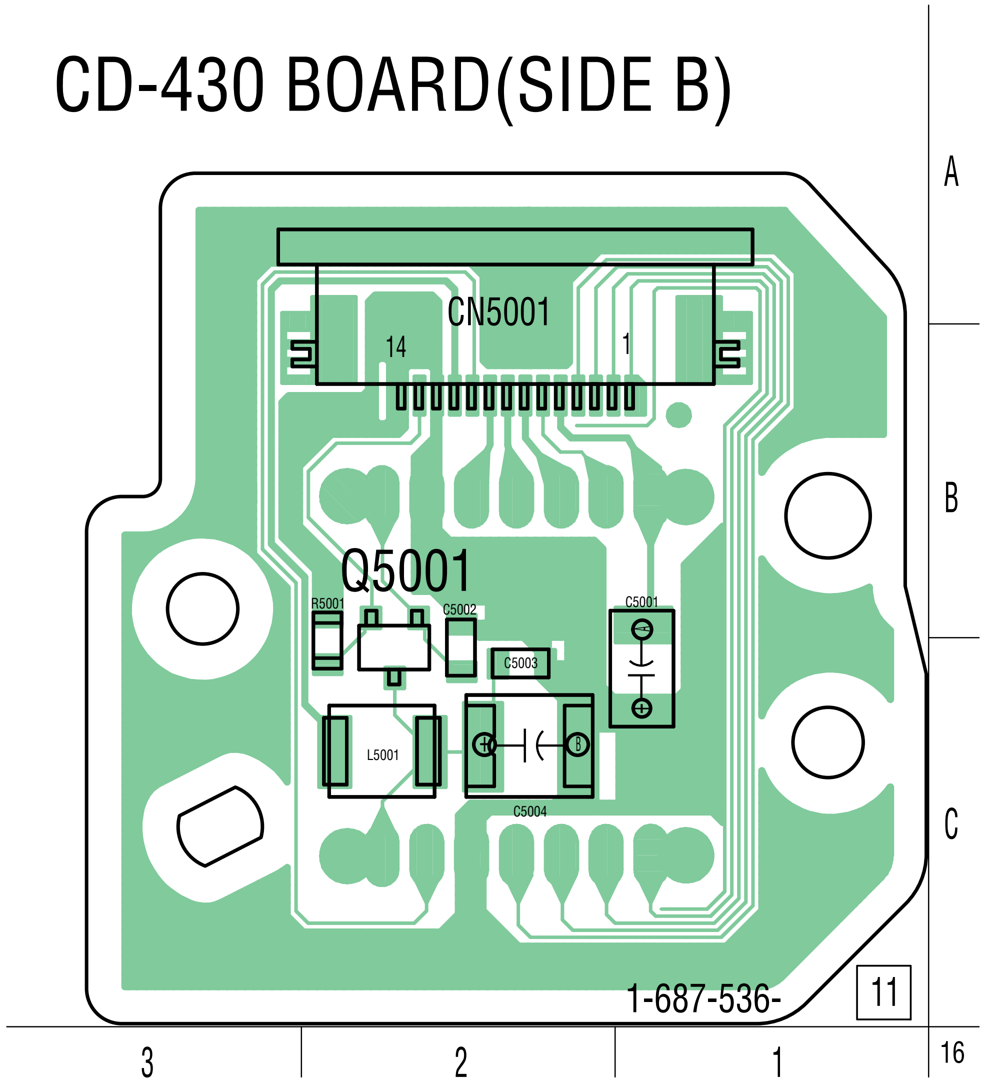
- Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.



CD-430 BOARD(SIDE A)

A
B
C
16
1
2
3
5
4
3
14
8
LN5001
IC5001
1
7
1
2



CD-430 BOARD(SIDE B)

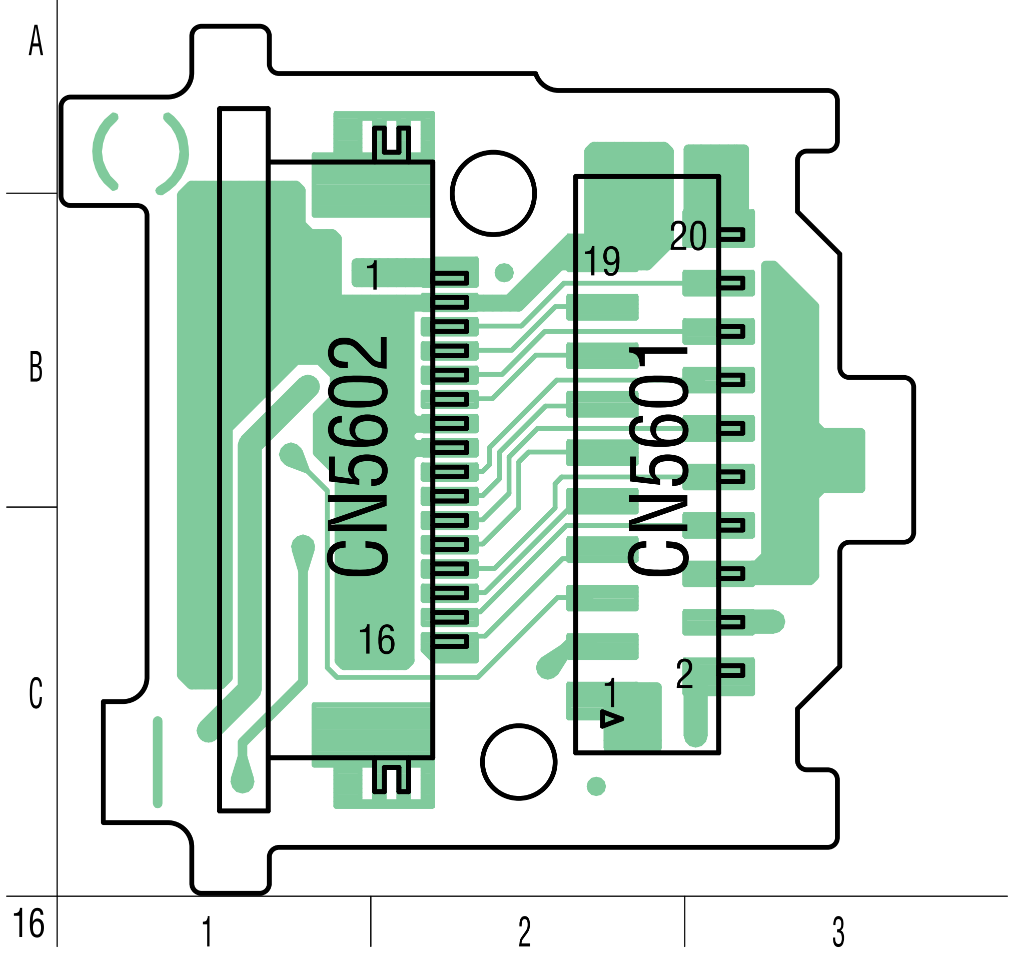
A
B
C
16
CN5001
14
1
Q5001
R5001
C5002
C5001
C5003
L5001
C5004
1-687-536-
11
3
2
1

LB-085 (EVF, BACK LIGHT) PRINTED WIRING BOARD

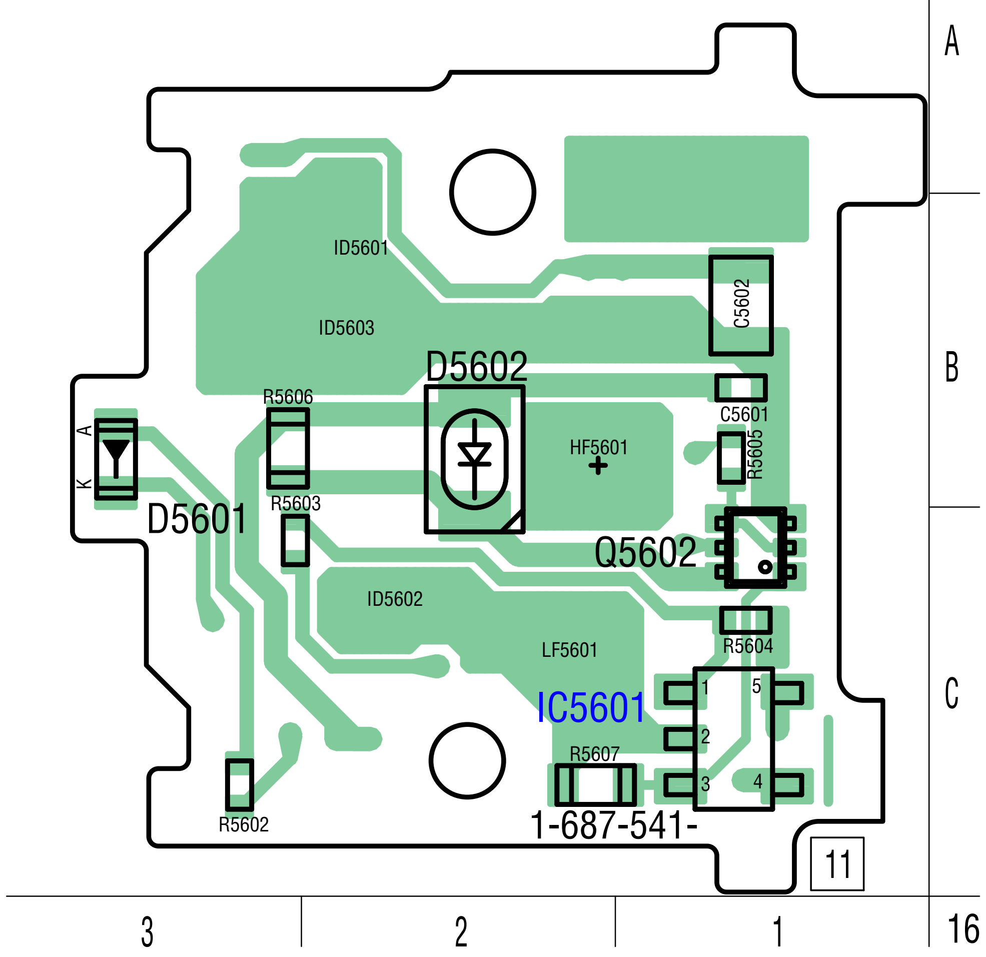
- Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.

LB-085 BOARD (SIDE A)


A
B
C
CN5602
1
16
CN5601
19
20
1
2
16
1
2
3

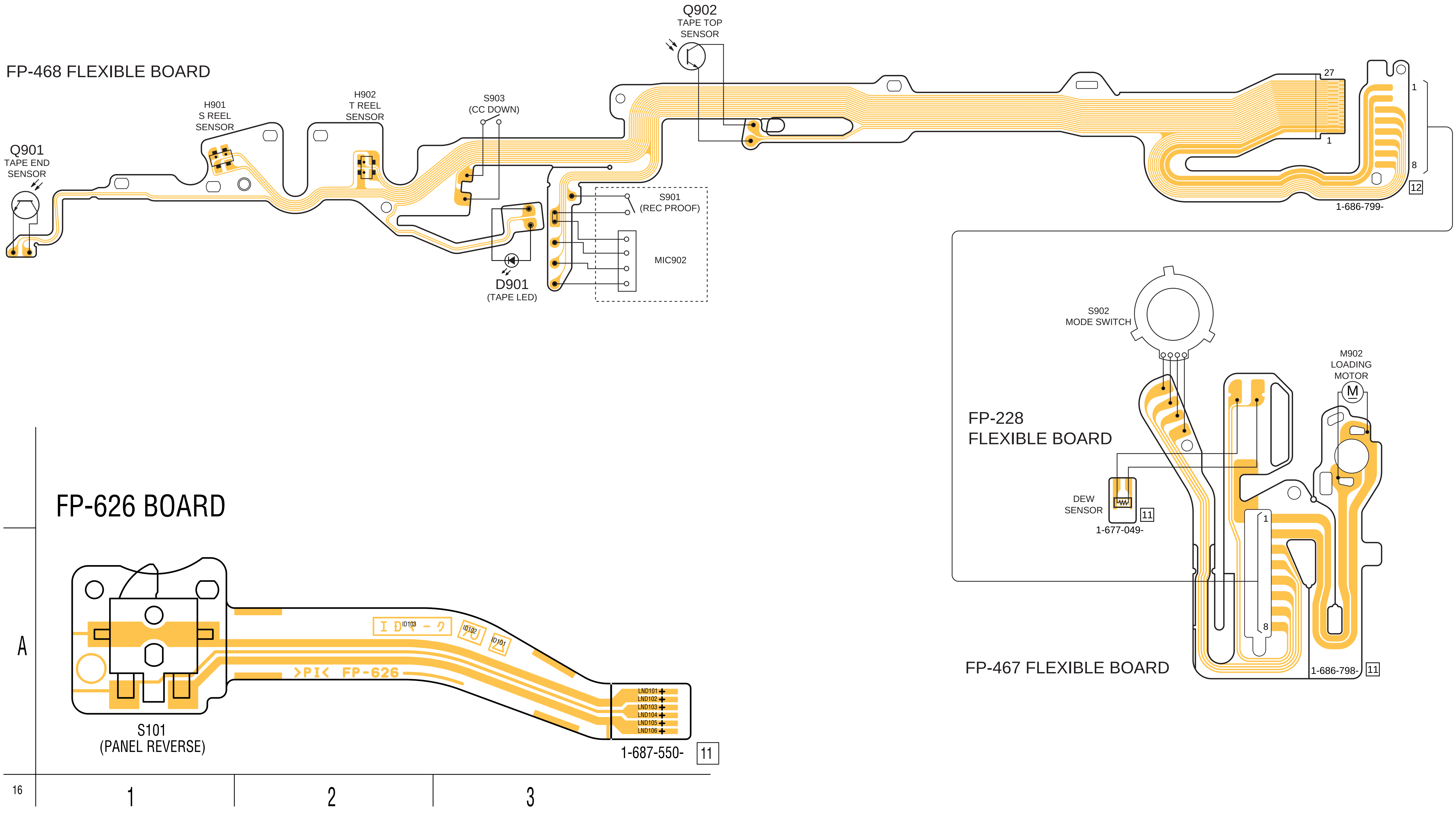
LB-085 BOARD (SIDE B)


A
B
C
ID5601
ID5603
D5602
C5602
C5601
R5606
HF5601
R5605
A
K
D5601
R5603
Q5602
ID5602
R5604
LF5601
IC5601
1
2
3
4
5
R5607
R5602
1-687-541-
11
3
2
1
16

FP-467/468/228 FLEXIBLE WIRING BOARD (MD BLOCK)
FP-626 FLEXIBLE WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.

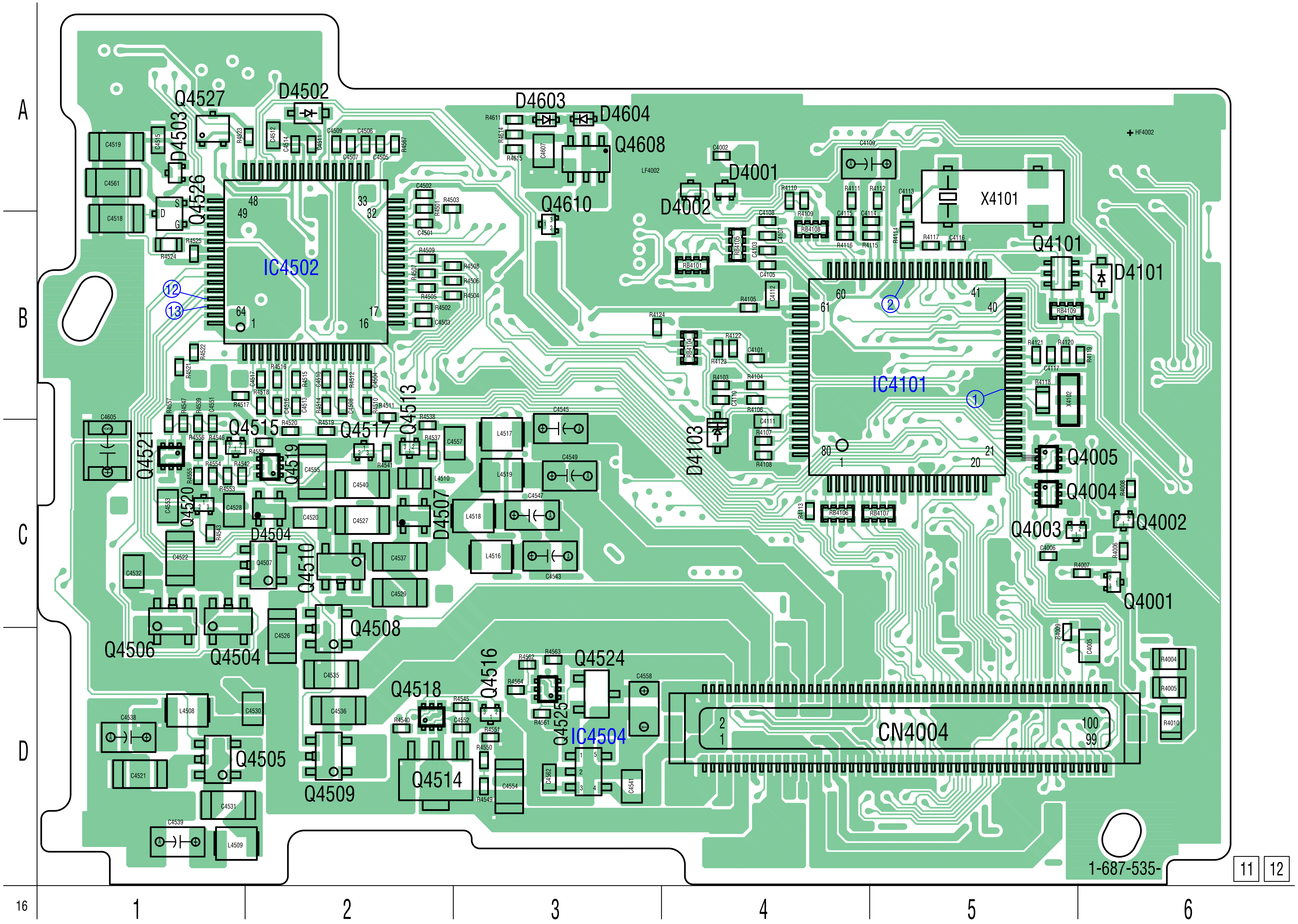

FP-468 FLEXIBLE BOARD
Q901
TAPE END
SENSOR
H901
S REEL
SENSOR
H902
T REEL
SENSOR
S903
(CC DOWN)
Q902
TAPE TOP
SENSOR
S901
(REC PROOF)
MIC902
D901
(TAPE LED)
27
1
1
8
12
1-686-799-
S902
MODE SWITCH
M902
LOADING
MOTOR
M
FP-228
FLEXIBLE BOARD
DEW
SENSOR
11
1-677-049-
1
8
FP-467 FLEXIBLE BOARD
1-686-798-
11
FP-626 BOARD
A
ID103
ID102
ID101
>PI< FP-626
LND101
LND102
LND103
LND104
LND105
LND106
S101
(PANEL REVERSE)
1-687-550-
11
16
1
2
3

VA-118 (RGB DRIVE, TG, HI CONTROL, Y/P SENSOR AMP, CONNECTOR, DC/DC COVERTER, POWER IN, CHARGE) PRINTED WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.

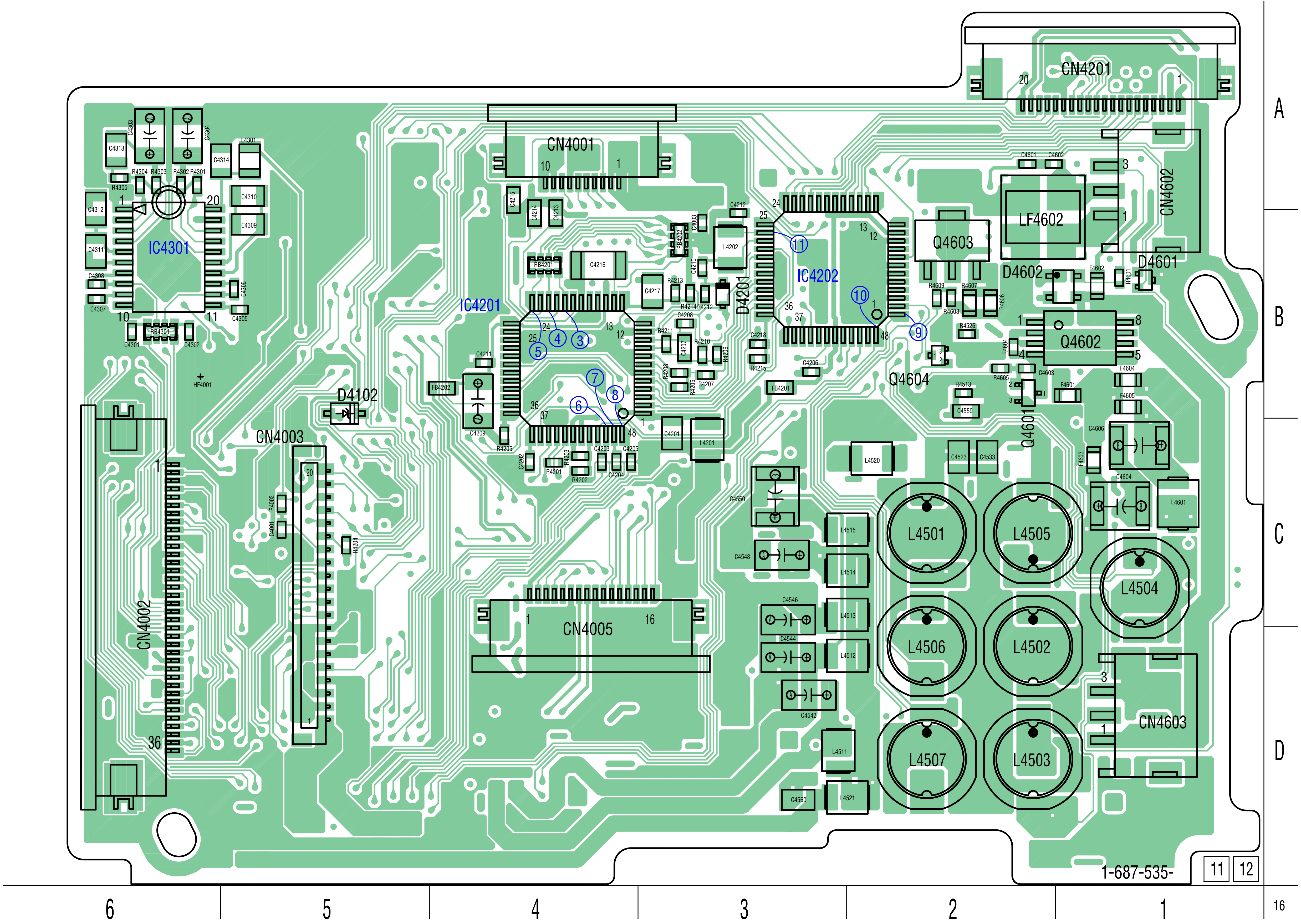
- 🄻🄵 : Uses unleaded solder.

VA-118 BOARD(SIDE A)


A
B
C
D
1
2
3
4
5
6
16
Q4527
D4502
D4503
Q4526
D4603
D4604
Q4608
D4001
D4002
Q4610
X4101
Q4101
D4101
IC4502
IC4101
D4103
Q4005
Q4004
Q4003
Q4002
Q4001
Q4515
Q4517
Q4513
Q4519
Q4521
Q4520
D4504
D4507
Q4510
Q4506
Q4504
Q4508
Q4518
Q4516
Q4524
Q4525
IC4504
Q4505
Q4509
Q4514
CN4004
C4519
C4561
C4518
C4605
C4538
C4521
C4531
C4539
L4508
L4509
L4517
L4519
L4518
L4516
C4545
C4549
C4547
C4543
C4540
C4527
C4537
C4529
C4526
C4535
C4536
C4555
C4557
C4522
C4532
C4528
C4558
C4554
C4109
RB4101
RB4108
RB4109
RB4106
RB4107
R4004
R4005
R4010
HF4002
LF4002
1-687-535-
11
12

• Refer to page 4-65 for common note for printed wiring board. • LF : Uses unleaded solder.

VA-118 BOARD(SIDE B)

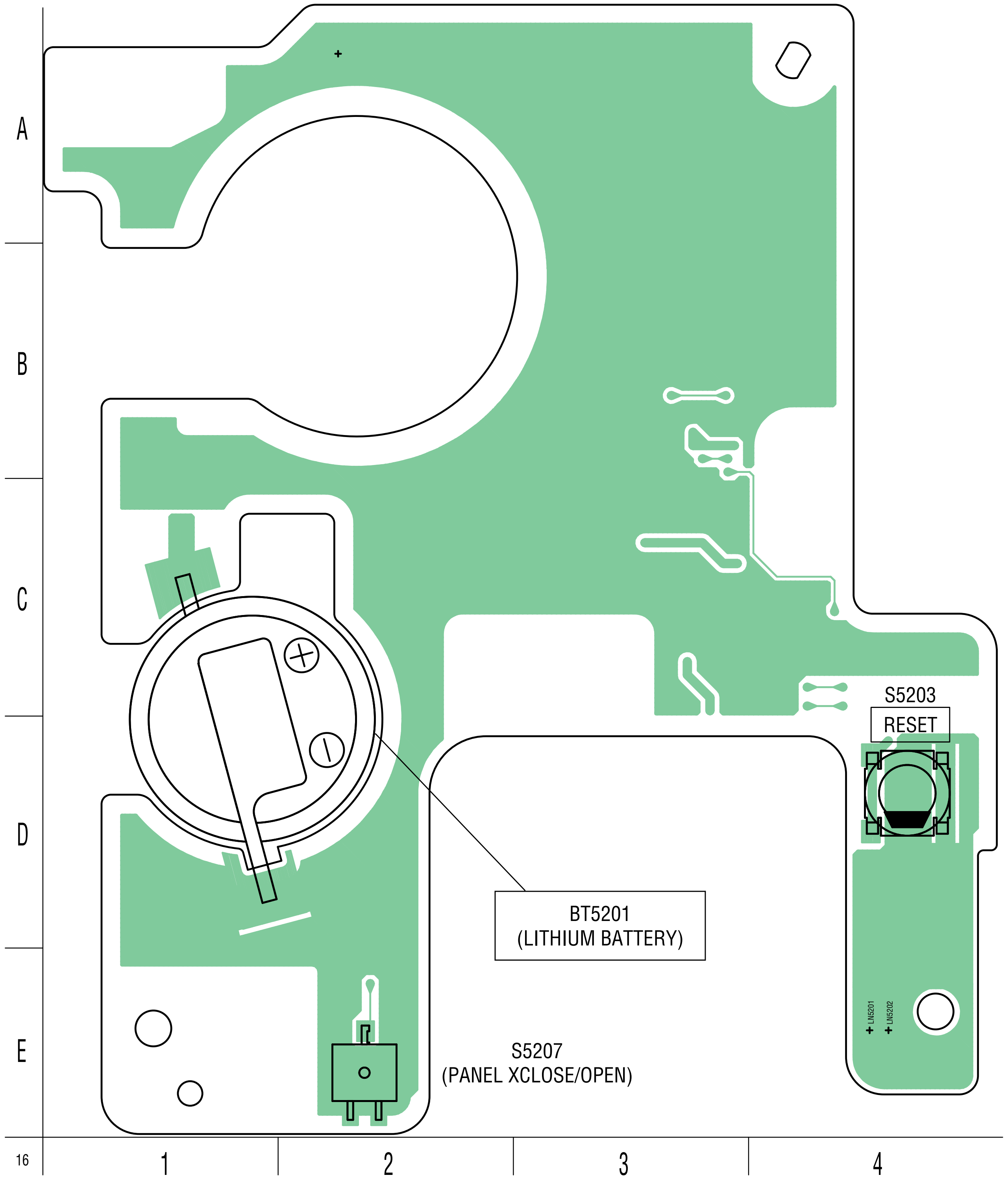

CN4201
20
1
A
B
C
D
CN4001
10
1
IC4301
C4313
C4303
C4304
L4301
C4314
R4304
R4303
R4302
R4301
R4305
C4312
C4310
C4309
C4311
C4308
C4306
C4307
C4305
C4301
RB4301
C4302
HF4001
20
11
10
1
C4215
C4214
C4213
RB4201
C4216
IC4201
24
25
13
12
36
37
48
1
③
④
⑤
⑥
⑦
⑧
C4211
FB4202
C4209
R4205
C4202
R4201
R4203
R4202
C4203
C4205
C4204
RB4202
C4603
L4202
C4212
C4210
C4217
R4213
R4214
R4212
C4208
R4211
C4207
R4210
R4208
R4206
R4207
R4209
D4201
C4218
R4215
IC4202
⑨
⑩
⑪
C4206
FB4201
C4201
L4201
D4102
CN4003
R4002
C4001
R4204
CN4002
36
Q4603
LF4602
C4601
C4602
CN4602
3
D4602
D4601
F4602
R4601
R4609
R4607
R4608
R4606
R4526
Q4602
8
5
4
R4604
R4605
R4513
C4603
F4604
F4601
F4605
C4559
Q4604
Q4601
C4606
F4603
C4604
L4601
L4520
C4523
C4533
C4550
C4548
L4515
L4514
C4546
L4513
C4544
L4512
C4542
L4511
C4560
L4521
L4501
L4505
L4504
L4506
L4502
L4507
L4503
CN4005
16
CN4603
1-687-535-
11
12
6
5
4
3
2
1
16

CK-129 (FUNCTION SWITCH) PRINTED WIRING BOARD

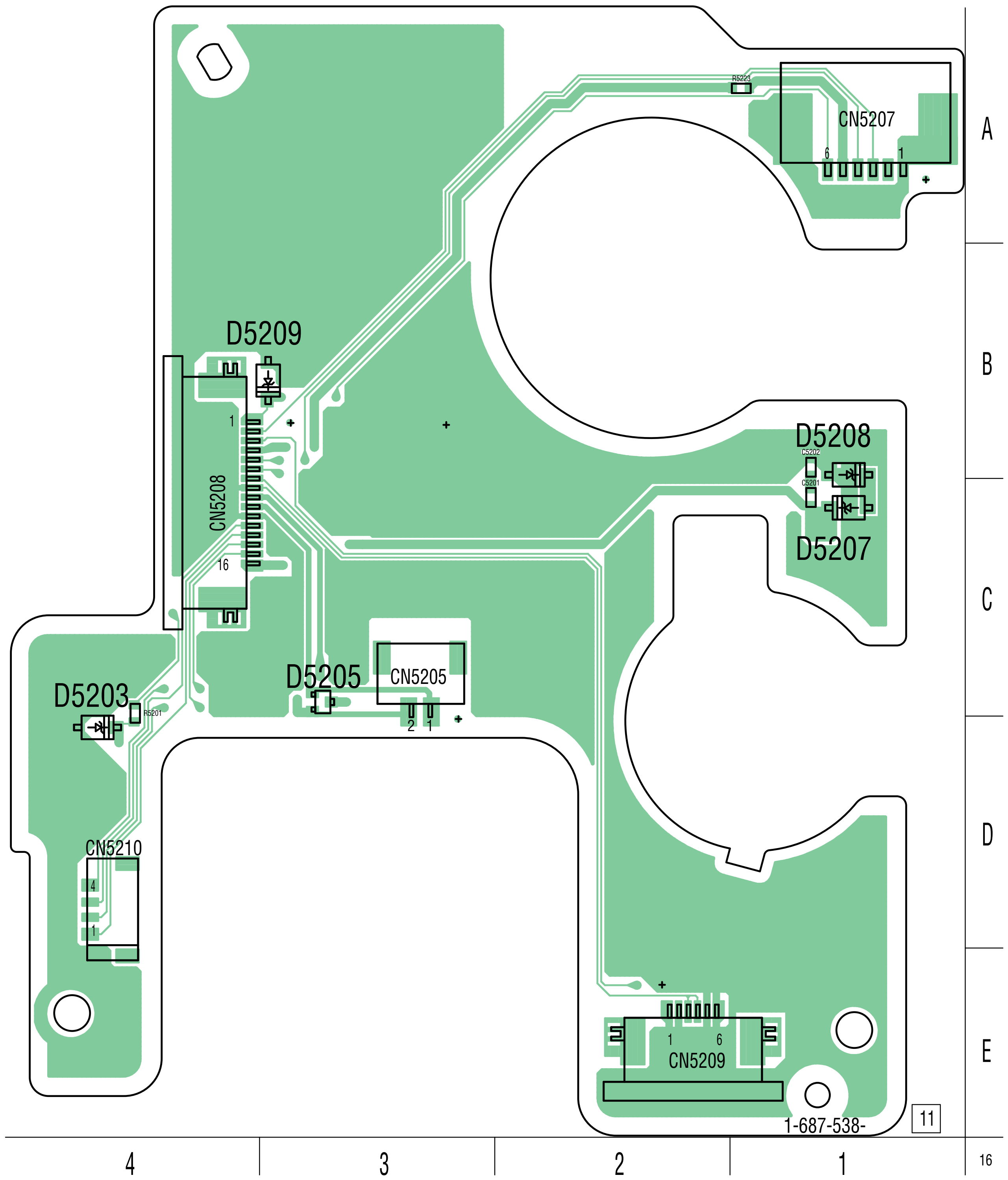
- Refer to page 4-65 for common note for printed wiring board.

- LF : Uses unleaded solder.

CK-129 BOARD(SIDE A)


A
B
C
D
E
16
1
2
3
4
S5203
RESET
BT5201
(LITHIUM BATTERY)
S5207
(PANEL XCLOSE/OPEN)

CK-129 BOARD(SIDE B)


CN5207
6
1
D5209
D5208
D5207
CN5208
1
16
D5203
D5205
CN5205
2
1
CN5210
4
1
CN5209
1
6
1-687-538-
11
A
B
C
D
E
16
4
3
2
1

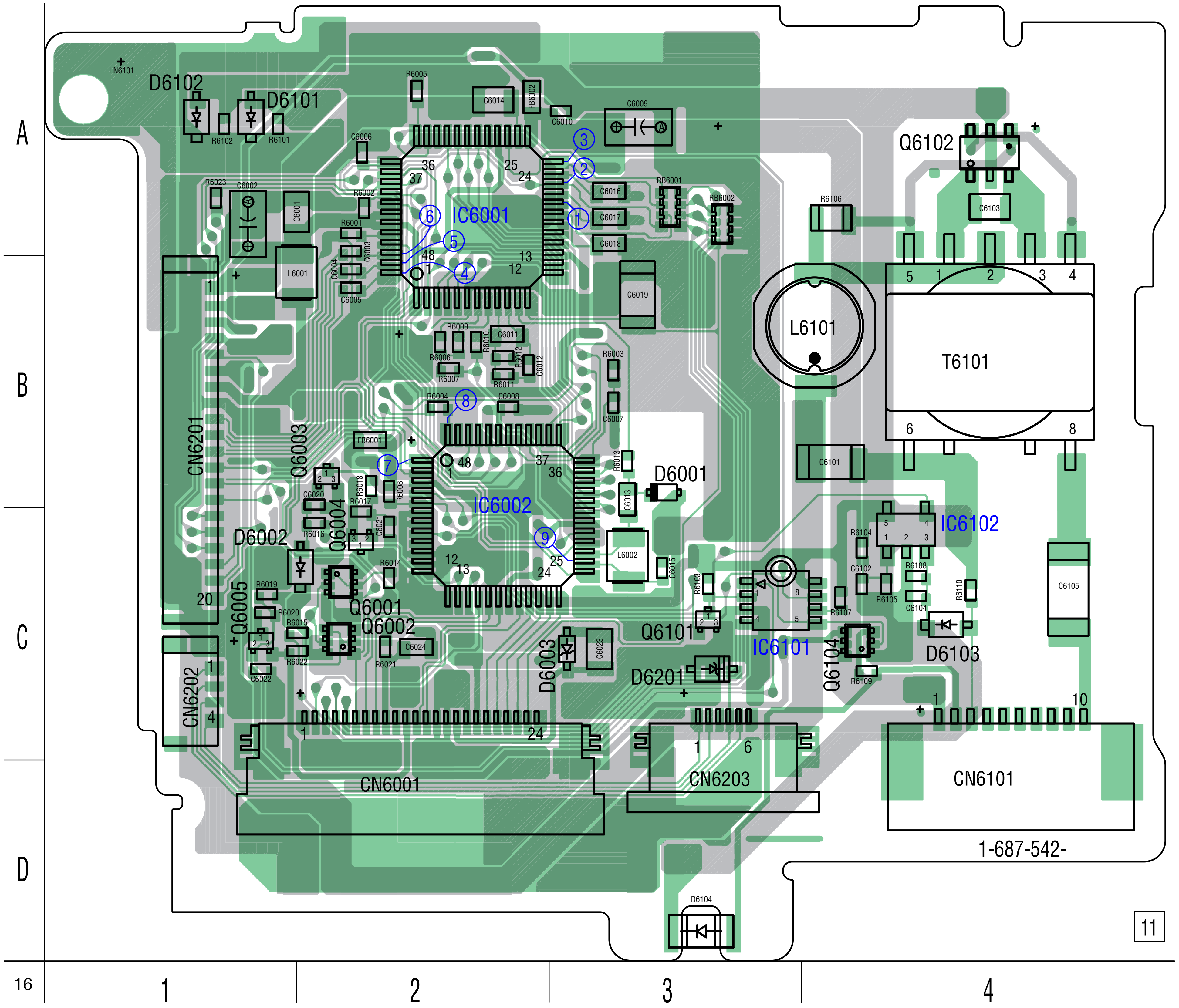
CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

PD-188 (DRIVER, TG, BACKLIGHT DRIVE) PRINTED WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.

- 🟩 : Uses unleaded solder.

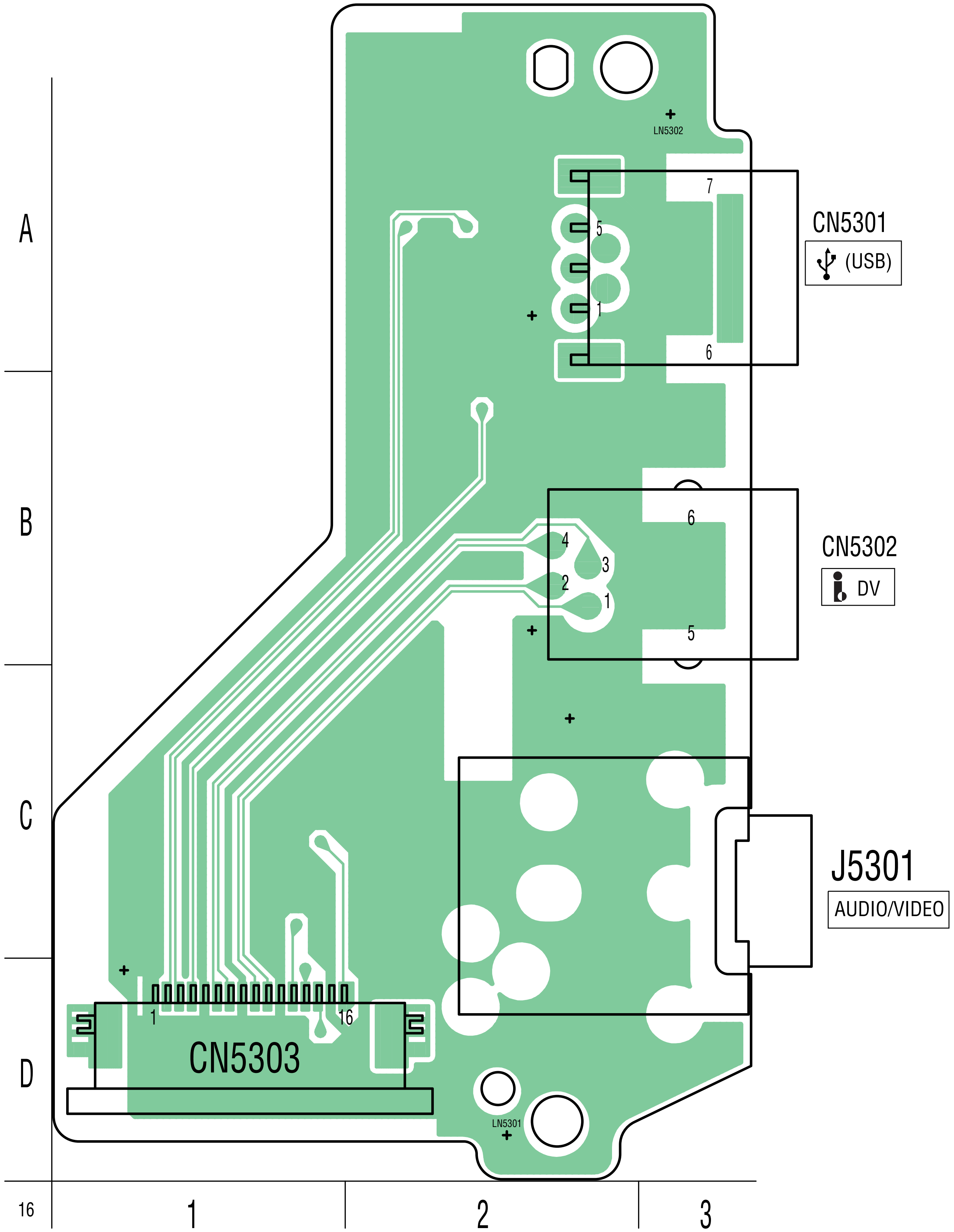
PD-188 BOARD


A
B
C
D
1
2
3
4
16
LN6101
D6102
D6101
R6102
R6101
R6005
C6014
FB6002
C6010
C6009
C6006
IC6001
R6023
C6002
R6002
R6001
C6001
C6003
C6004
C6005
L6001
C6016
C6017
C6018
RB6001
RB6002
C6019
R6106
Q6102
C6103
L6101
T6101
R6009
R6006
R6007
R6010
C6011
R6012
C6012
R6011
R6003
R6004
C6008
C6007
FB6001
CN6201
Q6003
C6020
R6018
R6017
R6008
IC6002
R6013
C6013
D6001
C6101
Q6004
R6016
C6021
D6002
L6002
C6015
IC6102
R6104
C6102
R6108
R6105
C6104
R6110
C6105
R6019
R6020
R6015
Q6005
Q6001
Q6002
R6014
C6024
R6021
R6022
C6022
CN6202
D6003
C6023
R6103
Q6101
IC6101
R6107
Q6104
R6109
D6103
D6201
CN6001
CN6203
CN6101
1-687-542-
D6104
11
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

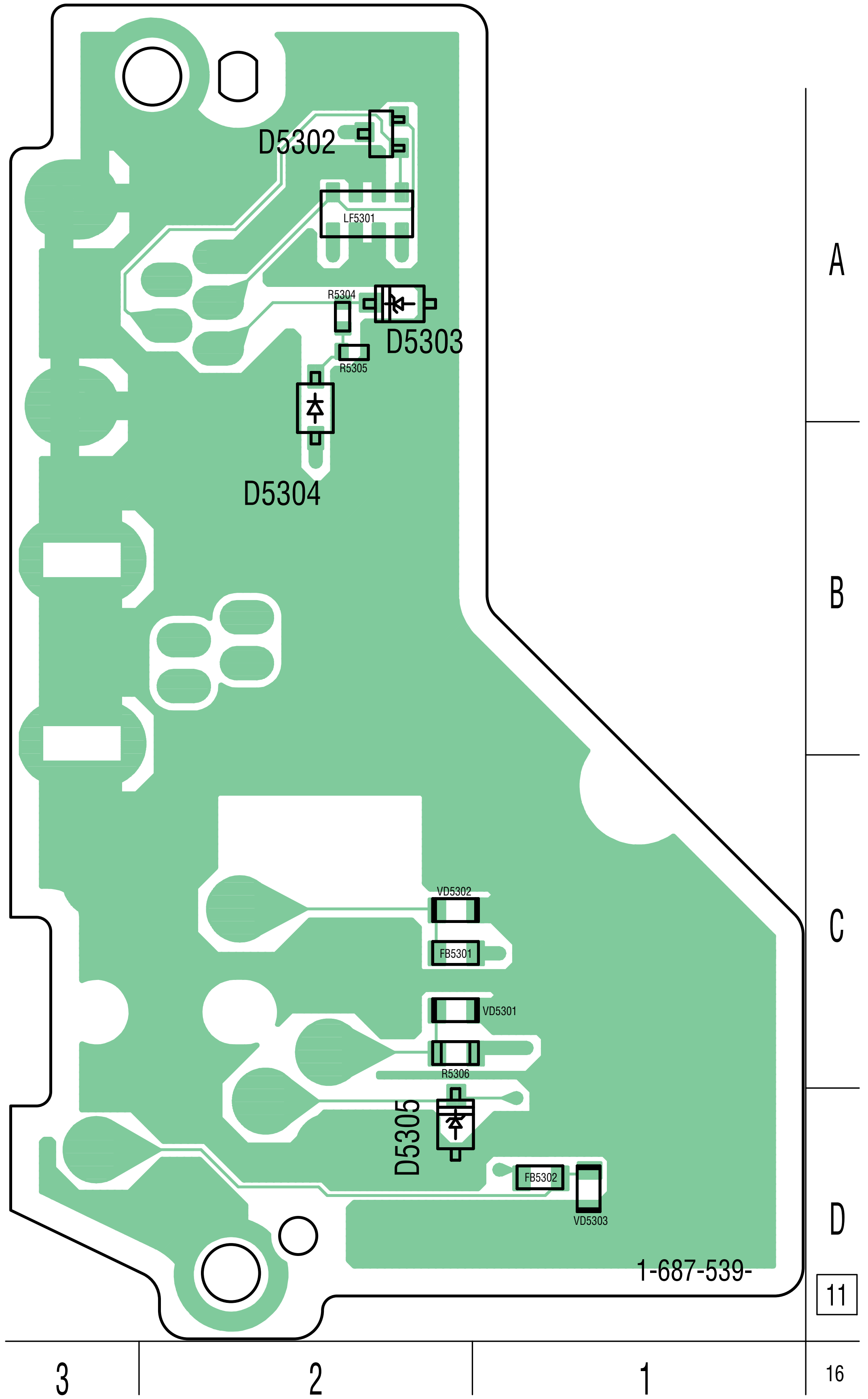
JK-242 (A.V/DV IN/OUT) PRINTED WIRING BOARD

- Refer to page 4-65 for common note for printed wiring board.
- : Uses unleaded solder.

JK-242 BOARD(SIDE A)


LN5302
7
5
1
6
CN5301
(USB)
6
4
3
2
1
5
CN5302
DV
J5301
AUDIO/VIDEO
1
16
CN5303
LN5301
A
B
C
D
16
1
2
3

JK-242 BOARD(SIDE B)

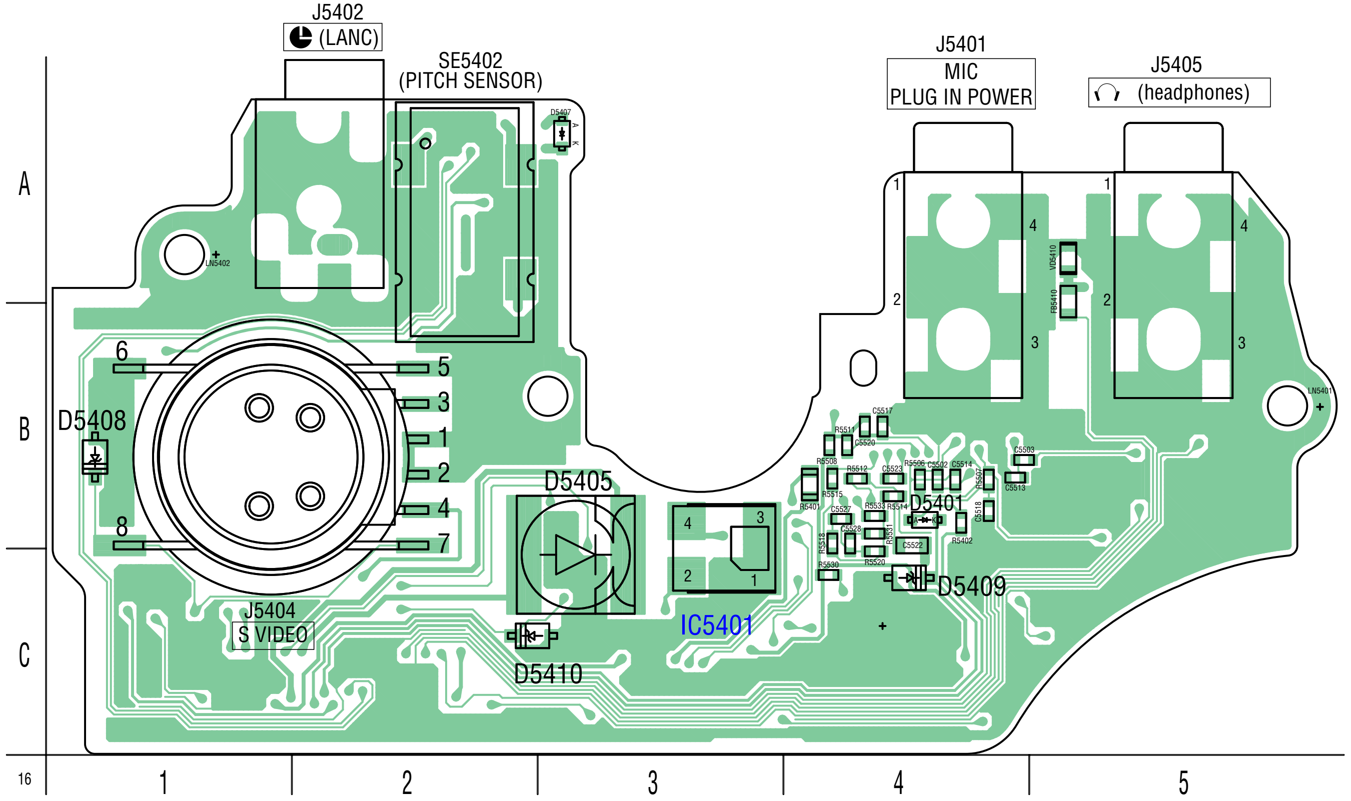

D5302
LF5301
R5304
D5303
R5305
D5304
VD5302
FB5301
VD5301
R5306
D5305
FB5302
VD5303
1-687-539-
11
A
B
C
D
3
2
1
16

MA-421 (MIC AMP, Y/P SENSOR, V/A IN/OUT) PRINTED WIRING BOARD

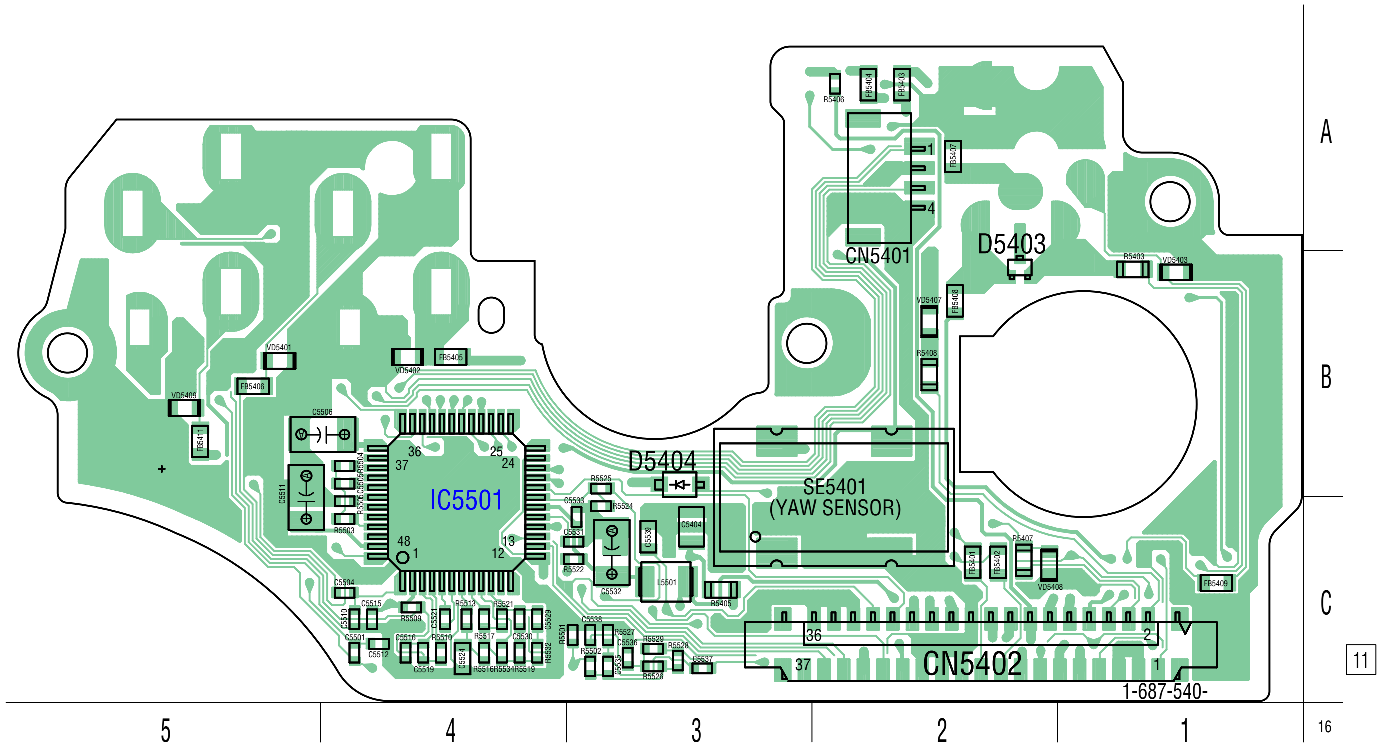
- Refer to page 4-65 for common note for printed wiring board.

- ![LF] : Uses unleaded solder.

MA-421 BOARD(SIDE A)


J5402
(LANC)
SE5402
(PITCH SENSOR)
J5401
MIC
PLUG IN POWER
J5405
(headphones)
A
B
C
D5408
6
8
5
3
1
2
4
7
D5405
4
3
2
1
IC5401
D5401
D5409
D5410
J5404
S VIDEO
1
2
4
3
1
2
4
3
16
1
2
3
4
5

MA-421 BOARD(SIDE B)

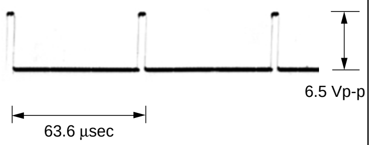

A
B
C
CN5401
1
4
D5403
36
37
25
24
48
1
13
12
IC5501
D5404
SE5401
(YAW SENSOR)
36
37
2
1
CN5402
1-687-540-
11
5
4
3
2
1
16

Printed wiring board of the VC-312 board are not shown.
Pages from 4-85 to 4-88 are not shown.

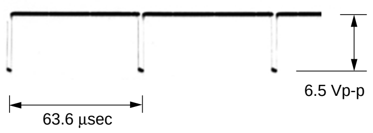
4-4. WAVEFORMS

CD-430 BOARD CAMERA REC

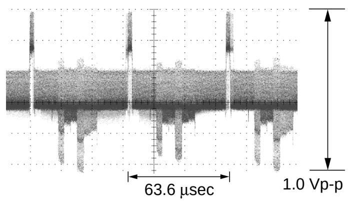
① IC5001 ①,②



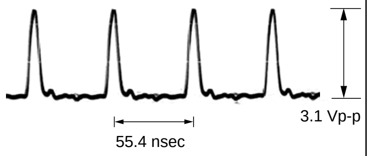
② IC5001 ③,④



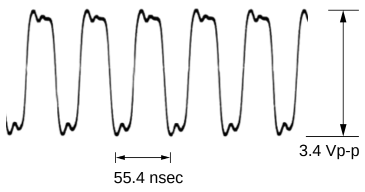
③ IC5001 ⑧



④ IC5001 ⑩

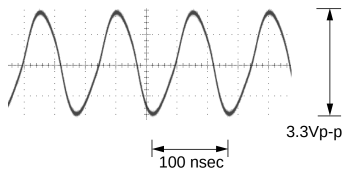


⑤ IC5001 ⑪,⑫

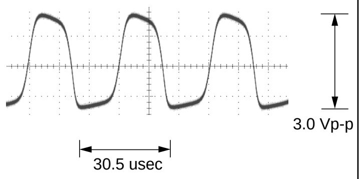


VA-118 BOARD

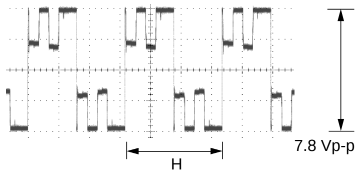
① IC4101 ㉙
REC/PB



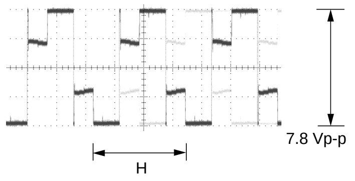
② IC4101 (51)
REC/PB



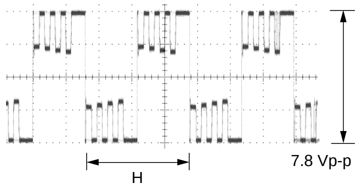
③ IC4201 ⑳
REC/PB (EVF)



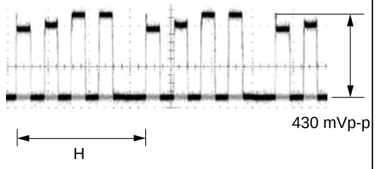
④ IC4201 ㉒
REC/PB (EVF)



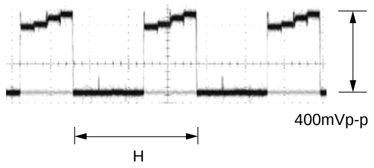
⑤ IC4201 ㉔
REC/PB (EVF)



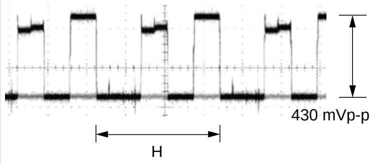
⑥ IC4201 ㊻
REC/PB (EVF)



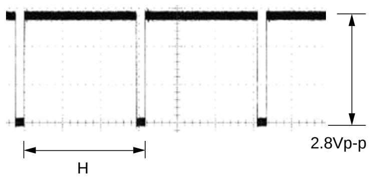
⑦ IC4201 ㊼
REC/PB (EVF)



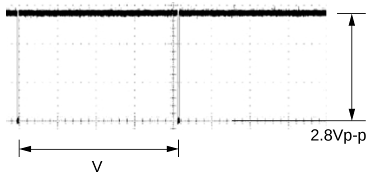
⑧ IC4201 ㊽
REC/PB (EVF)



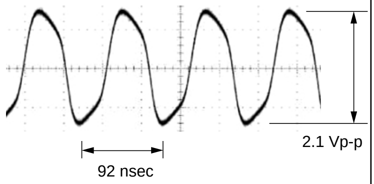
⑨ IC4202 ①
REC/PB



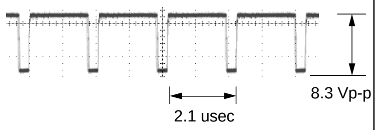
⑩ IC4202 ㊽
REC/PB



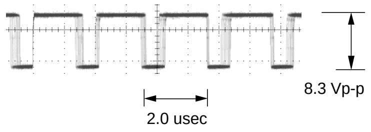
⑪ IC4202 ㉖
REC/PB (EVF)



⑫ IC4501 (61)
REC/PB

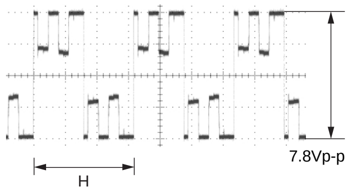


⑬ IC4502 (62)
REC/PB

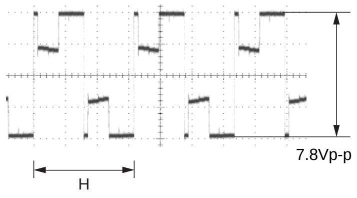


PD-188 BOARD REC/PB

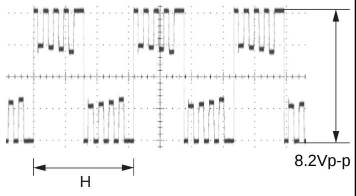
① IC6001 ⑳



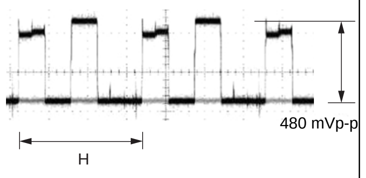
② IC6001 ㉒



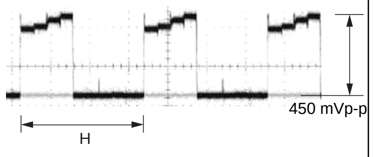
③ IC6001 ㉔



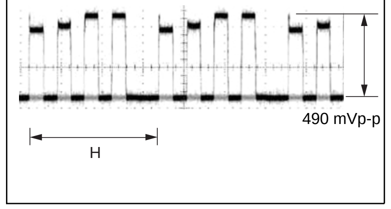
④ IC6001 ㊽



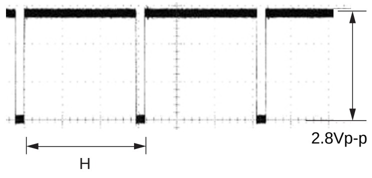
⑤ IC6001 ㊼



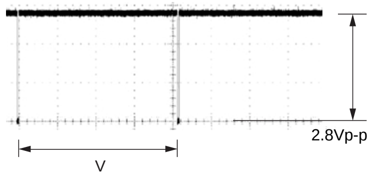
⑥ IC6001 ㊻



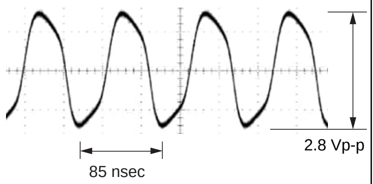
⑦ IC6002 ①



⑧ IC6002 ㊽



⑨ IC6002 ㉖



Waveforms of the VC-312 board are not shown.
Pages 4-91 and 4-92 are not shown.

4-5. MOUNTED PARTS LOCATION

no mark : side A
* mark : side B

CD-430 BOARD

* C5001	C-1
* C5002	B-2
* C5003	C-2
* C5004	C-2
* CN5001	A-2
IC5001	C-2
L5001	C-2
* Q5001	B-1
* R5001	C-2

LB-085 BOARD

* C5601	B-1
* C5602	B-1
CN5601	B-2
CN5602	A-1
* D5601	B-3
* D5602	B-2
* IC5601	C-1
* Q5602	C-1
* R5602	C-3
* R5603	C-3
* R5604	C-1
* R5605	B-1
* R5606	B-3
* R5607	C-2

VA-118 BOARD

* C4001	C-5
C4002	A-4
* C4003	A-3
C4005	C-6
C4006	C-5
C4101	B-4
C4103	B-4
C4105	B-4
C4107	B-4
C4108	A-4
C4109	A-5
C4110	B-4
C4111	B-4
C4112	B-4
C4113	A-5
C4114	A-5
C4115	A-4
C4116	B-5
C4117	B-5
* C4201	C-3
* C4202	C-4
* C4203	C-4
* C4204	C-4
* C4205	C-4
* C4206	B-3
* C4207	B-3
* C4208	B-3
* C4209	B-4
* C4210	B-3
* C4211	B-4
* C4212	A-3
* C4213	A-4
* C4214	A-4
* C4215	A-4
* C4216	B-4
* C4217	B-3
* C4218	B-3
* C4301	B-6
* C4302	B-6
* C4303	A-6
* C4304	A-6
* C4305	B-6
* C4306	B-6
* C4307	B-6
* C4308	B-6
* C4309	B-5
* C4310	A-5
* C4311	B-6
* C4312	A-6
* C4313	A-6
* C4314	A-6
C4501	A-2
C4502	A-2
C4503	B-2
C4504	B-2
C4505	A-2
C4506	A-2
C4507	A-2
C4508	B-2
C4509	A-2
C4510	B-2
C4511	A-2
C4512	A-2
C4513	B-2
C4514	A-2
C4515	A-1
C4516	B-2
C4517	B-2
C4518	A-1
C4519	A-1
C4520	C-2
C4521	D-1
C4522	C-1
* C4523	C-2
C4526	C-2
C4527	C-2
C4528	C-1
C4529	C-2
C4530	D-2
C4531	D-1
C4532	C-1
* C4533	C-2
C4535	D-2
C4536	D-2
C4537	C-2
C4538	D-1
C4539	D-1
C4540	C-2
C4541	D-3
* C4542	D-3
C4543	C-3
* C4544	D-3
C4545	B-3
* C4546	C-3
C4547	C-3
* C4548	C-3
C4549	C-3
* C4550	C-3
C4551	B-1
C4552	D-3
C4553	C-1
C4554	D-3
C4555	C-2
C4557	C-3
C4558	D-3
* C4559	B-2
* C4560	D-3
C4561	A-1
C4562	D-3
* C4601	B-2
* C4602	A-2
* C4603	B-2
* C4604	C-1
C4605	C-1
* C4606	C-1
C4607	A-3
* CN4001	A-4
* CN4002	C-6
* CN4003	C-5
CN4004	D-5
* CN4005	D-4
* CN4201	A-1
* CN4602	A-1
* CN4603	D-1
D4001	A-4
D4002	A-4
D4101	B-6
* D4102	B-5
D4103	C-4
* D4201	B-3
D4502	A-2
D4503	A-1
D4504	C-2
D4507	C-2
* D4601	B-1
* D4602	B-1
D4603	A-3
D4604	A-3
* F4601	B-1
* F4602	B-1
* F4603	C-1
* F4604	B-1
* F4605	B-1
* FB4201	B-3
* FB4202	B-4
IC4101	B-5
* IC4201	B-4
* IC4202	B-3
* IC4301	B-6
IC4502	B-2
IC4504	D-3
* L4201	C-3
* L4202	B-3
* L4301	A-5
* L4501	C-2
* L4502	D-2
* L4503	D-2
* L4504	C-1
* L4505	C-2
* L4506	D-2
* L4507	D-2
L4508	D-1
L4509	D-1
L4510	C-2
* L4511	D-3
* L4512	D-3
* L4513	C-3
* L4514	C-3
* L4515	C-3
L4516	C-3
L4517	C-3
L4518	C-3
L4519	C-3
* L4520	C-2
* L4521	D-3
* L4601	C-1
* LF4601	A-2
* LF4602	A-2
Q4001	C-6
Q4002	C-6
Q4003	C-5
Q4004	C-5
Q4005	C-5
Q4101	B-6
Q4504	C-1
Q4505	D-1
Q4506	C-1
Q4507	C-1
Q4508	C-2
Q4509	D-2
Q4510	C-2
Q4513	C-2
Q4514	D-2
Q4515	C-1
Q4516	D-3
Q4517	C-2
Q4518	D-2
Q4519	C-2
Q4520	C-1
Q4521	C-1
Q4524	D-3
Q4525	D-3
Q4526	A-1
Q4527	A-1
* Q4601	B-2
* Q4602	B-1
* Q4603	B-2
* Q4604	B-2
Q4608	A-3
Q4610	A-3
* R4002	C-5
R4004	D-6
R4005	D-6
R4006	C-6
R4007	C-6
R4008	C-6
R4009	C-6
R4010	D-6
R4103	B-4
R4104	B-4
R4105	B-4
R4106	B-4
R4107	C-4
R4108	C-4
R4109	A-4
R4110	A-4
R4111	A-5
R4112	A-5
R4113	C-4
R4114	A-5
R4115	A-5
R4116	A-4
R4117	B-5
R4118	B-5
R4119	B-6
R4120	B-6
R4121	B-5
R4122	B-4
R4123	B-4
R4124	B-4
* R4201	C-4
* R4202	C-4
* R4203	C-4
* R4204	C-5
* R4205	C-4
* R4206	B-3
* R4207	B-3
* R4208	B-3
* R4209	B-3
* R4210	B-3
* R4211	B-3
* R4212	B-3
* R4213	B-3
* R4214	B-3
* R4215	B-3
* R4301	A-6
* R4302	A-6
* R4303	A-6
* R4304	A-6
* R4305	A-6
R4501	A-2
R4502	B-2
R4503	A-3
R4504	B-3
R4505	B-2
R4506	B-3
R4507	B-2
R4508	B-3
R4509	B-2
R4510	B-2
R4511	B-2
R4512	B-2
* R4513	B-2
R4514	B-2
R4515	B-2
R4516	B-2
R4517	B-1
R4518	B-2
R4519	B-2
R4520	B-2
R4521	B-1
R4522	B-1
R4523	A-2
R4524	B-1
R4525	B-1
* R4526	B-2
R4537	C-2
R4538	B-2
R4539	B-1
R4540	D-2
R4541	C-2
R4542	C-2
R4543	C-1
R4545	D-3
R4546	C-1
R4547	B-1
R4549	D-3
R4550	D-3
R4551	D-3
R4552	C-2
R4553	C-1
R4554	C-1
R4555	C-1
R4556	C-1
R4557	B-1
R4561	D-3
R4562	D-3
R4563	D-3
R4564	D-3
R4567	A-2
* R4601	B-1
* R4604	B-2
* R4605	B-2
* R4606	B-2
* R4607	B-2
* R4608	B-2
* R4609	B-2
R4611	A-3
R4614	A-3
R4615	A-3
RB4101	B-4
RB4104	B-4
RB4105	B-4
RB4106	C-4
RB4107	C-5
RB4108	A-4
RB4109	B-6
* RB4201	B-4
* RB4202	B-3
* RB4301	B-6
X4101	A-5
X4102	B-6

4-3. PRINTED WIRING BOARDS

no mark : side A
* mark : side B

CK-129 BOARD

* BT5201	C-1
* C5201	C-1
* C5202	B-1
* CN5205	C-3
* CN5207	A-1
* CN5208	C-4
* CN5209	E-2
* CN5210	D-4a
* D5203	D-4
* D5205	C-3
* D5207	C-1
* D5208	B-1
* D5209	B-3
* R5201	D-4
* R5223	A-1
S5203	D-4
S5207	E-2a

PD-188 BOARD

C6001	A-2
C6002	A-1
C6003	A-2
C6004	B-2
C6005	B-2
C6006	A-2
C6007	B-3
C6008	B-2
C6009	A-3
C6010	A-3
C6011	B-2
C6012	B-2
C6013	B-3
C6014	A-2
C6015	C-3
C6016	A-3
C6017	A-3
C6018	A-3
C6019	B-3
C6020	B-2
C6021	C-2
C6022	C-1
C6023	C-3
C6024	C-2
C6101	B-4
C6102	C-4
C6103	A-4
C6104	C-4
C6105	C-4
CN6001	D-2
CN6101	D-4
CN6201	B-1
CN6202	C-1
CN6203	D-3
D6001	B-3
D6002	C-2
D6003	C-3
D6101	A-1
D6102	A-1
D6103	C-4
D6104	D-3
D6201	C-3
FB6001	B-2
FB6002	A-2
IC6001	A-2
IC6002	C-2
IC6101	C-3
IC6102	C-4
L6001	B-2
L6002	C-3
L6101	B-4
Q6001	C-2
Q6002	C-2
Q6003	B-2
Q6004	C-2
Q6005	C-1
Q6101	C-3
Q6102	A-4
Q6103	A-4
Q6104	C-4
R6001	A-2
R6002	A-2
R6003	B-3
R6004	B-2
R6005	A-2
R6006	B-2
R6007	B-2
R6008	B-2
R6009	B-2
R6010	B-2
R6011	B-2
R6012	B-2
R6013	B-3
R6014	C-2
R6015	C-2
R6016	C-2
R6017	C-2
R6018	B-2
R6019	C-1
R6020	C-1
R6021	C-2
R6022	C-2
R6023	A-1
R6101	A-1
R6102	A-1
R6103	C-3
R6104	C-4
R6105	C-4
R6106	A-4
R6107	C-4
R6108	C-4
R6109	C-4
R6110	C-4
RB6001	A-3
RB6002	A-3
T6101	B-4

JK-242 BOARD

CN5301	A-3
CN5302	B-3
CN5303	D-1
* D5302	A-2
* D5303	A-2
* D5304	B-2
* D5305	D-1
* FB5301	C-1
* FB5302	D-1
J5301	C-2
* LF5301	A-2
* R5304	A-2
* R5305	A-2
* R5306	C-1
* VD5301	C-1
* VD5302	C-1
* VD5303	D-1

MA-421 BOARD

C5402	B-4
* C5404	C-3
* C5501	C-4
C5502	B-4
C5503	B-4
* C5504	C-4
* C5505	B-4
* C5506	B-4
* C5510	C-4
* C5511	B-5
* C5512	C-4
C5513	B-4
C5514	B-4
* C5515	C-4
* C5516	C-4
C5517	B-4
C5518	B-4
* C5519	C-4
C5520	B-4
* C5521	C-4
C5522	B-4
C5523	B-4
* C5524	C-4
C5527	B-4
C5528	B-4
* C5529	C-4
* C5530	C-4
* C5531	C-3
* C5532	C-3
* C5533	B-3
* C5535	C-3
* C5536	C-3
* C5537	C-3
* C5538	C-3
* C5539	C-3
* CN5401	A-2
* CN5402	C-2
D5401	B-4
* D5403	B-2
* D5404	B-3
D5405	C-3
D5407	A-3
D5408	B-1
D5409	C-4
* FB5401	C-2
* FB5402	C-2
* FB5403	A-2
* FB5404	A-2
* FB5405	B-4
* FB5406	B-5
* FB5407	A-2
* FB5408	B-2
* FB5409	C-1
FB5410	A-5
* FB5411	B-5
IC5401	C-3
* IC5501	C-4
J5401	A-4
J5402	A-2
J5404	B-1
J5405	A-5
* L5501	C-3
R5401	B-4
R5402	B-4
* R5403	B-1
* R5405	C-3a
* R5406	A-2
* R5407	C-2a
* R5408	B-2
* R5501	C-3
* R5502	C-3
* R5503	C-4
* R5504	B-4
* R5505	C-4
R5506	B-4
R5507	B-4
R5508	B-4
* R5509	C-4
* R5510	C-4
R5511	B-4
R5512	B-4
* R5513	C-4
R5514	B-4
R5515	B-4
* R5516	C-4
* R5517	C-4
R5518	B-4
* R5519	C-4
R5520	C-4
* R5521	C-4
* R5522	C-3
* R5524	C-3
* R5525	B-3
* R5526	C-3
* R5527	C-3
* R5528	C-3
* R5529	C-3
R5530	C-4
R5531	B-4
* R5532	C-4
R5533	B-4
* R5534	C-4
* SE5401	C-2
SE5402	A-2
* VD5401	B-5
* VD5402	B-4
* VD5403	B-1
* VD5407	B-2
* VD5408	C-2
* VD5409	B-5
VD5410	A-5

Mounted parts location of the VC-312 board is not shown.
Page 4-95 is not shown.

COVER

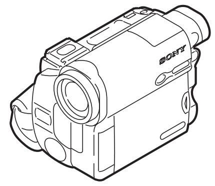
NOTE

5. REPAIR PARTS LIST

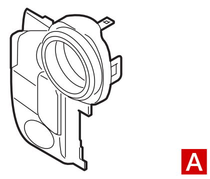
NOTE: Characters A to Z of the electrical parts list indicate location of exploded views in which the desired part is shown.

EXPLODED VIEWS

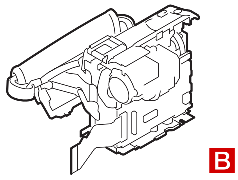
Link



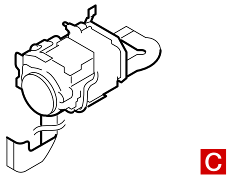
OVERALL SECTION



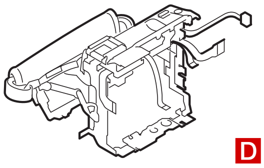
F PANEL SECTION



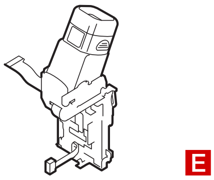
MAIN CHASSIS SECTION



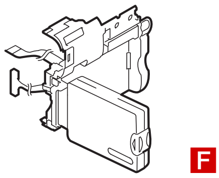
LENS SECTION



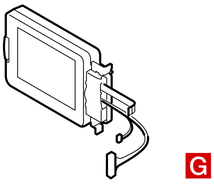
CABINET L SECTION



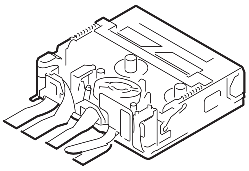
BT PANEL/EVF SECTION



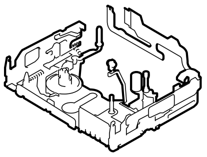
CABINET R SECTION



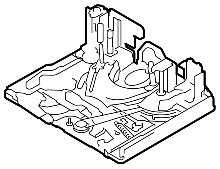
LCD SECTION



OVERALL (MECHANISM DECK-Z100)



LS CHASSIS BLOCK ASSEMBLY



MECHANICAL CHASSIS BLOCK ASSEMBLY

ELECTRICAL PARTS LIST

Link

ACCESSORIES

CD-430 BOARD	C	JK-242 BOARD	D	PD-188 BOARD	G
CK-129 BOARD	F	LB-085 BOARD	E	VA-118 BOARD	B
FP-626 FLEXIBLE BOARD	G	MA-421 BOARD	A		

COVER

5. REPAIR PARTS LIST

NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- CAPACITORS:
  uF: µF
- COILS
  uH: µH
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...
- Abbreviation

CND	: Canadian model
AUS	: Australian model
EE	: East European model
NE	: North European model
JE	: Tourist model
CH	: Chinese model
KR	: Korea model
HK	: Hong Kong model
BR	: Brazilian model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

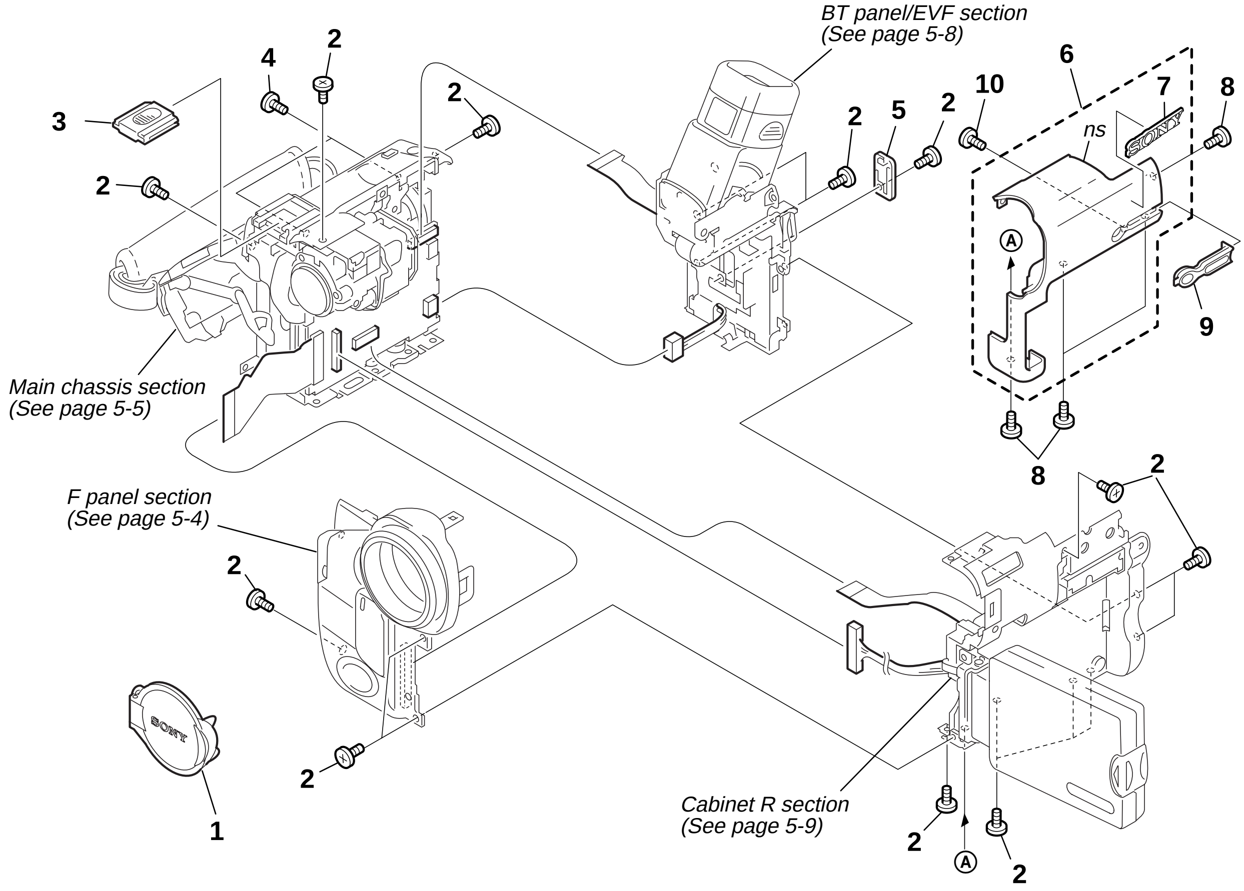
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

5. REPAIR PARTS LIST

5-1. EXPLODED VIEWS

5-1-1. OVERALL SECTION

ns : not supplied


BT panel/EVF section
(See page 5-8)
Main chassis section
(See page 5-5)
F panel section
(See page 5-4)
Cabinet R section
(See page 5-9)
ns
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A
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10

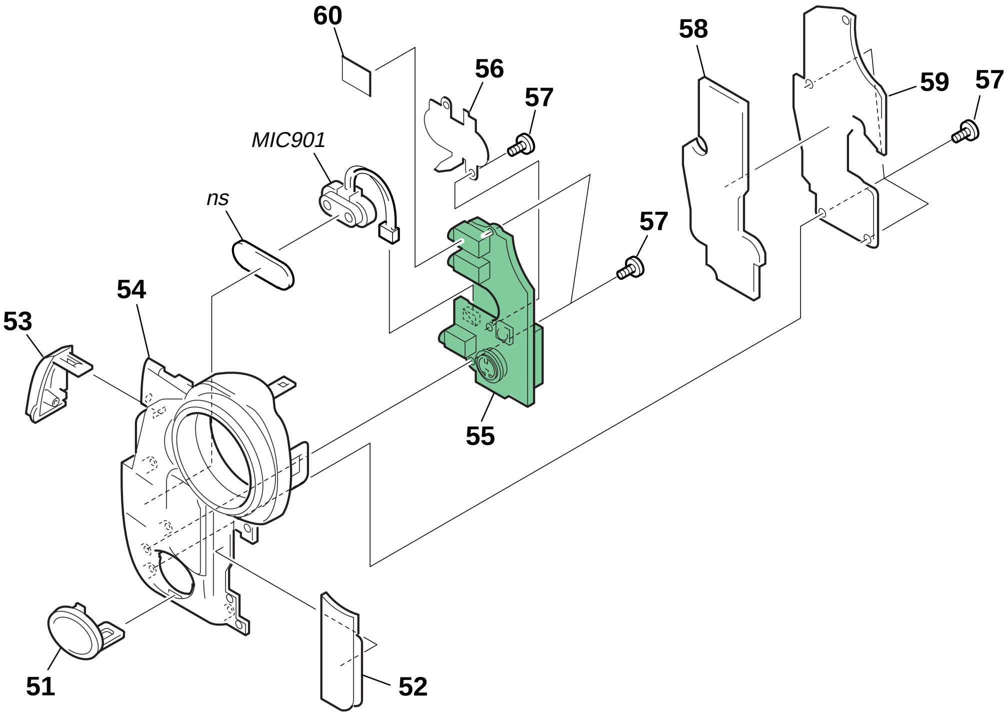
Ref. No.	Part No.	Description	Remarks
1	X-3953-088-1	CAP ASSY, LENS	
2	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
3	3-080-571-01	COVER, SHOE	
4	3-056-030-81	SCREW (M1.7), LOCK ACE, P2	
5	3-080-570-01	LID, CPC	
6	X-3953-228-1	COVER (39E) ASSY, CABINET (R)	
* 7	4-942-636-01	EMBLEM (NO.3.5), SONY	
8	3-989-735-51	SCREW (M1.7), LOCK ACE, P2	
9	3-080-421-01	BUTTON, CF	
10	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	

COVER

5. REPAIR PARTS LIST

5-1-2. F PANEL SECTION

ns : not supplied



Ref. No.	Part No.	Description	Remarks
51	3-080-516-01	COVER, S TERMINAL	
52	3-080-402-01	PLATE, NAME (TRV22)	
52	3-080-402-41	PLATE, NAME (TRV22E)	
53	3-080-573-01	COVER (F), JACK	
54	X-3953-213-1	PANEL (395) ASSY, F	
55	A-7013-530-A	MA-421 (MSARI) BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remarks
56	3-080-517-01	RETAINER, MICROPHONE	
57	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
58	3-080-519-01	CUSHION, MA COVER	
59	3-080-514-01	COVER, MA	
60	CAUTION	SHEET, HP	
MIC901	1-542-513-11	MICROPHONE	

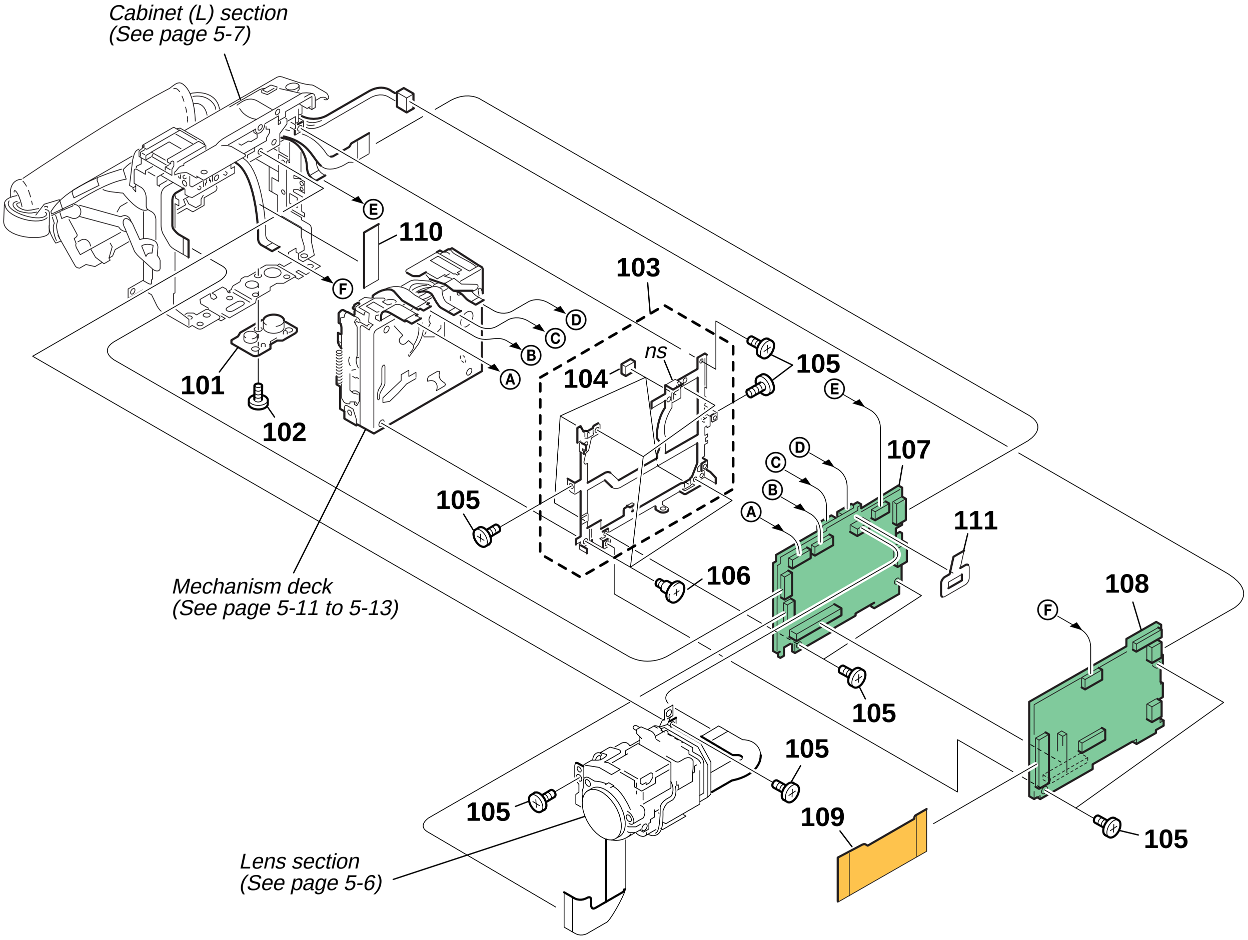
CAUTION :
For the parts of 60 : SHEET, HP (3-083-974-01) cut SHEET (MD), CN (3-075-957-02) into the desired length and use it.

COVER

5. REPAIR PARTS LIST

5-1-3. MAIN CHASSIS SECTION

ns : not supplied



Cabinet (L) section
(See page 5-7)

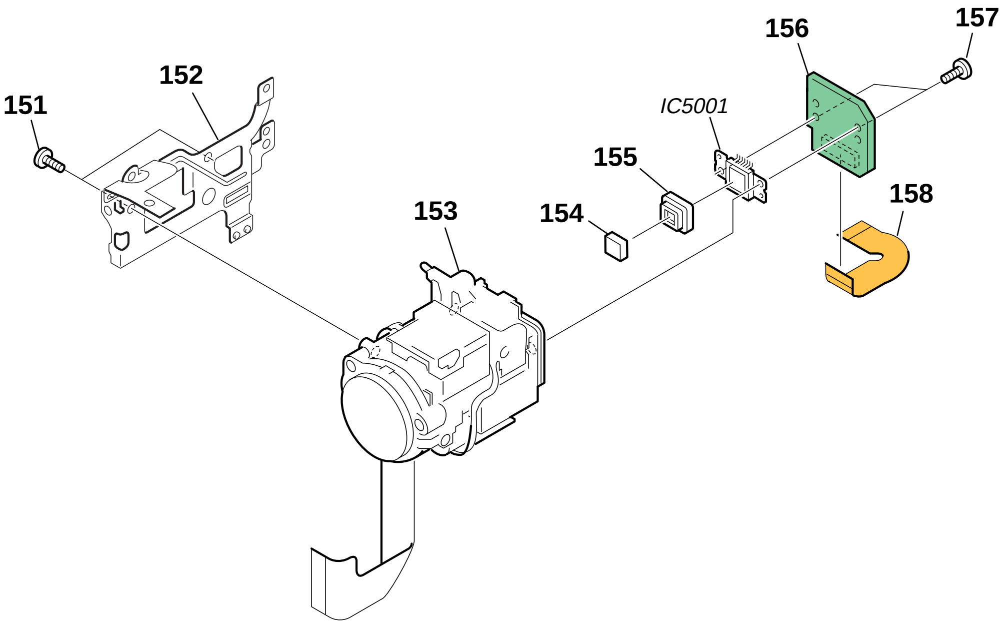
Mechanism deck
(See page 5-11 to 5-13)

Lens section
(See page 5-6)

Ref. No.	Part No.	Description	Remarks
101	3-080-569-01	SCREW	
102	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
103	X-3953-112-1	FRAME ASSY, MD	
104	3-975-921-01	SHEET, VIBRATION PROOF	
105	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
106	3-062-214-01	SCREW (M1.4X1.5)	
107	A-7078-607-A	VC-312 BOARD, COMPLETE (SERVICE)	
108	A-7013-554-A	VA-118 (MDF) BOARD, COMPLETE	
109	1-687-546-11	FP-621 FLEXIBLE BOARD	
110	3-941-343-21	TAPE (A)	
111	3-081-787-01	SHEET, RF	

5. REPAIR PARTS LIST

5-1-4. LENS SECTION



Be sure to read “Precautions upon replacing CCD imager” on page 4-9 when changing the CCD imager.

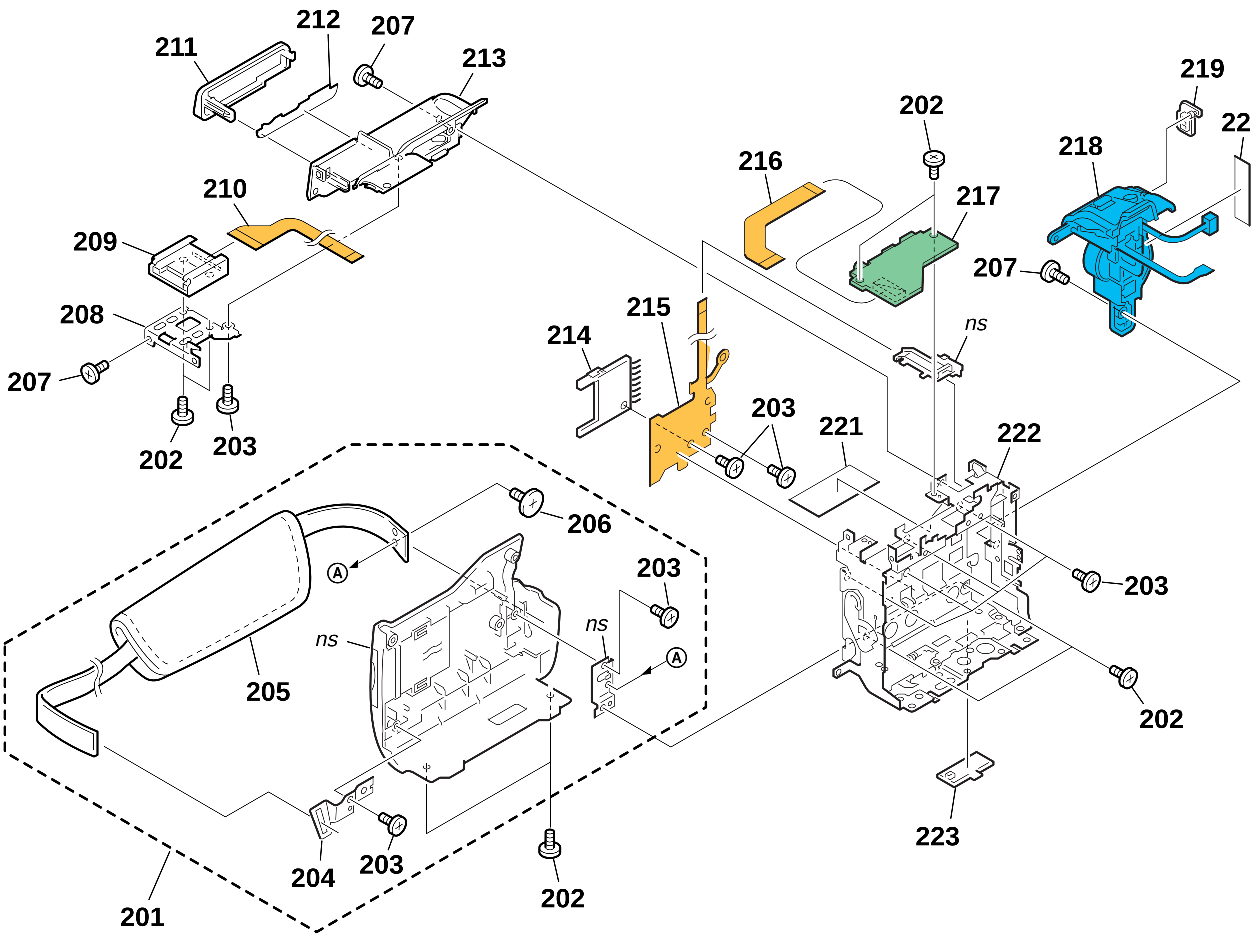
Ref. No.	Part No.	Description	Remarks
151	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
152	X-3953-110-1	FRAME (39) ASSY, LENS	
153	8-848-767-01	DEVICE, LENS LSV-650E	
154	1-758-155-21	FILTER BLOCK, OPTICAL	
155	3-053-973-01	RUBBER (W), SEAL	
156	A-7013-526-A	CD-430 BOARD, COMPLETE	
157	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
158	1-687-547-11	FP-623 FLEXIBLE BOARD	
IC5001	A-7031-244-A	CCD BLOCK ASSY (CCD IMAGER) (TRV22)	
IC5001	A-7031-276-A	CCD BLOCK ASSY (CCD IMAGER) (TRV22E)	

COVER

5. REPAIR PARTS LIST

5-1-5. CABINET L SECTION

ns : not supplied


211
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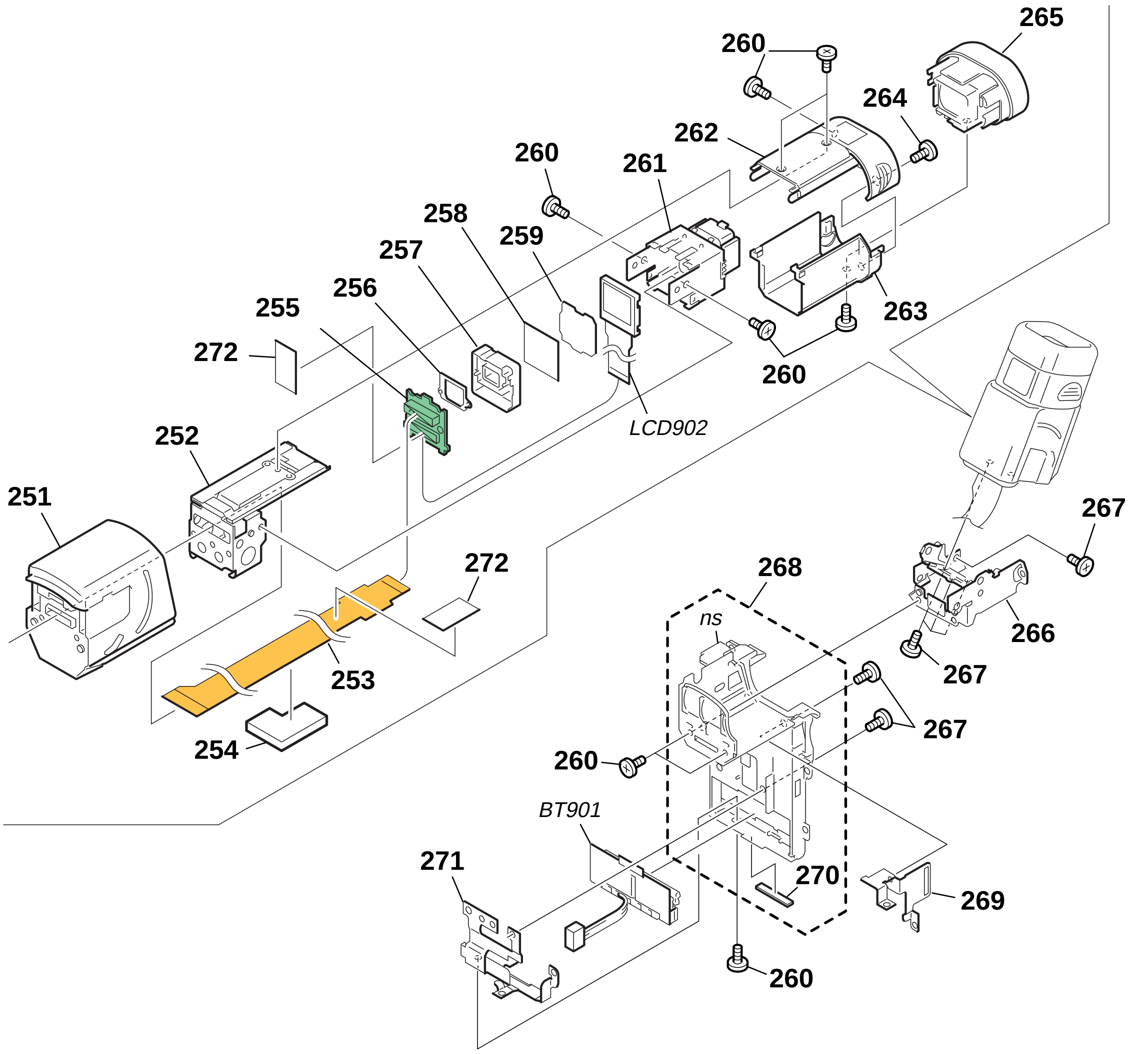
202
201

Ref. No.	Part No.	Description	Remarks
201	X-3953-219-2	CABINET (G) ASSY (40E)	
202	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
203	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
204	3-080-468-01	SHEET METAL (FRONT), GRIP BELT	
205	3-080-467-01	BELT, GRIP	
206	3-073-686-11	SCREW (M2X2.5)	
207	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
208	3-080-473-01	FRAME, SHOE	
209	1-793-996-11	CONNECTOR, EXTERNAL	
210	1-687-545-11	FP-620 FLEXIBLE BOARD	
211	3-080-572-01	COVER (L), JACK	
212	3-080-576-11	SHEET (L), JACK	
213	X-3953-217-1	CABINET (L) ASSY (39E)	
214	1-815-795-11	CONNECTOR, MEMORY STCK	
215	1-687-551-11	FP-630 FLEXIBLE BOARD	
216	1-687-549-11	FP-625 FLEXIBLE BOARD	
217	A-7013-551-A	JK-242 BOARD, COMPLETE	
218	1-477-740-21	SWITCH BLOCK, CONTROL (FK-CX4000)	
219	3-082-335-01	COVER, JACK DC-IN (SERVICE)	
220	3-076-631-01	RETAINER, FK FLEXIBLE	
221	3-081-434-01	SHEET Z	
222	X-3953-096-1	FRAME ASSY, CS	
223	3-080-471-01	KNOB, EJECT	

5-1-6. BT PANEL/EVF SECTION

ns : not supplied


265
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LCD902
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253
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BT901
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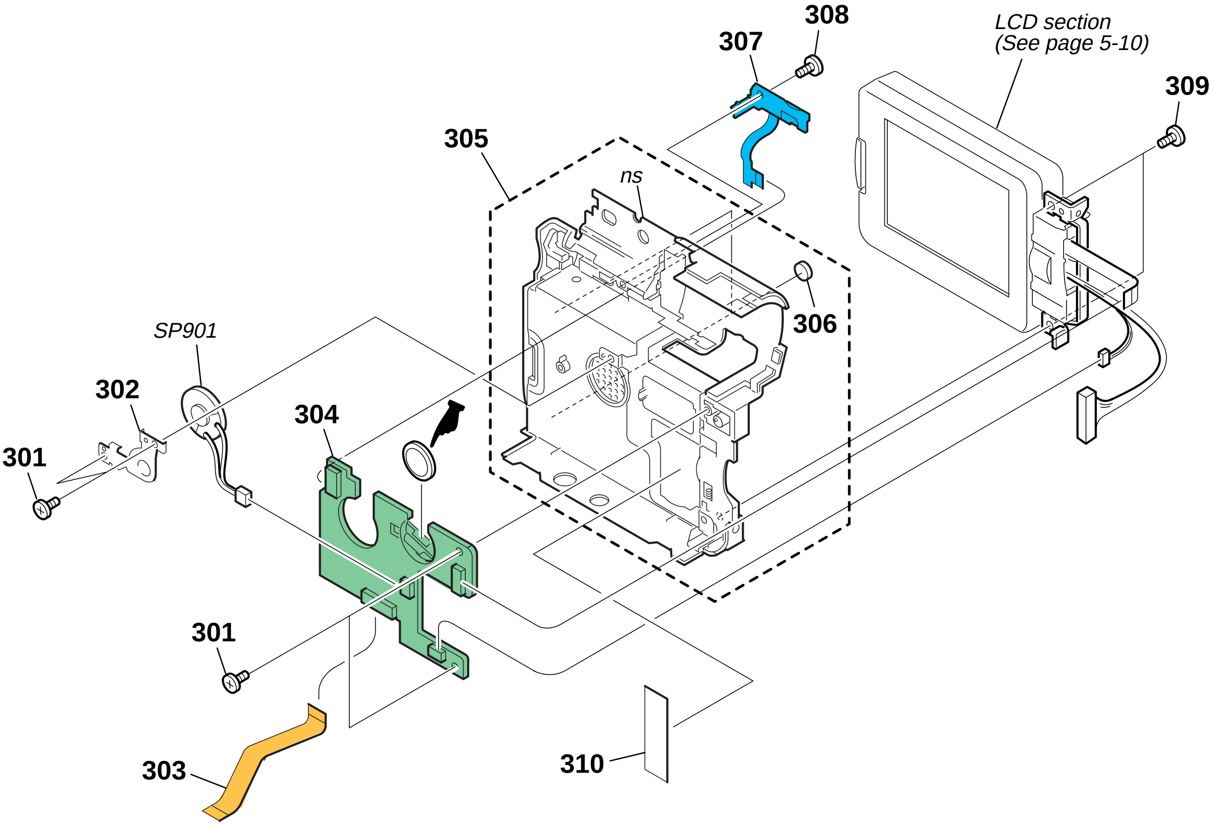
Ref. No.	Part No.	Description	Remarks
251	3-080-420-01	CABINET, VF TILT	
252	X-3953-118-1	SLIDE ASSY, VF	
253	1-687-544-21	FP-619 FLEXIBLE BOARD	
254	3-081-694-02	RETAINER, EVF FLEXIBLE	
255	A-7013-525-A	LB-085 (C) BOARD, COMPLETE	
256	3-080-615-01	CUSHION (LB) (40)	
257	3-080-618-01	GUIDE (40), LAMP	
258	3-080-613-01	ILLUMINATOR (40)	
259	3-080-614-01	SHEET (40), PRISM	
260	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
261	X-3953-119-1	CABINET ASSY, LCD	
262	X-3953-117-1	CABINET (UPPER) ASSY, VF SLIDE	
263	3-080-617-01	CABINET (LOWER), VF SLIDE	
264	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
265	X-3953-115-1	EYE CUP (40) ASSY	
266	X-3953-116-1	HINGE ASSY, VF	
267	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
268	X-3953-113-1	PANEL ASSY, BATTERY (TRV22:US,CND,E,HK,JE,KR/TRV22E)	
268	X-3953-297-1	PANEL ASSY, BATTERY (TRV22:BR)	
269	X-3953-349-2	SHEET METAL (UPPER) ASSY STRAP	
270	3-080-543-01	SHEET, FOOT	
271	X-3953-114-1	SHEET METAL (LOWER) ASSY,STRAP	
272	3-083-290-01	SHEET (VF)	
BT901	1-694-796-11	TERMINAL BOARD, BATTERY	
LCD902	8-753-028-47	LCX032AN-5	

5-1-7. CABINET R SECTION

ns : not supplied



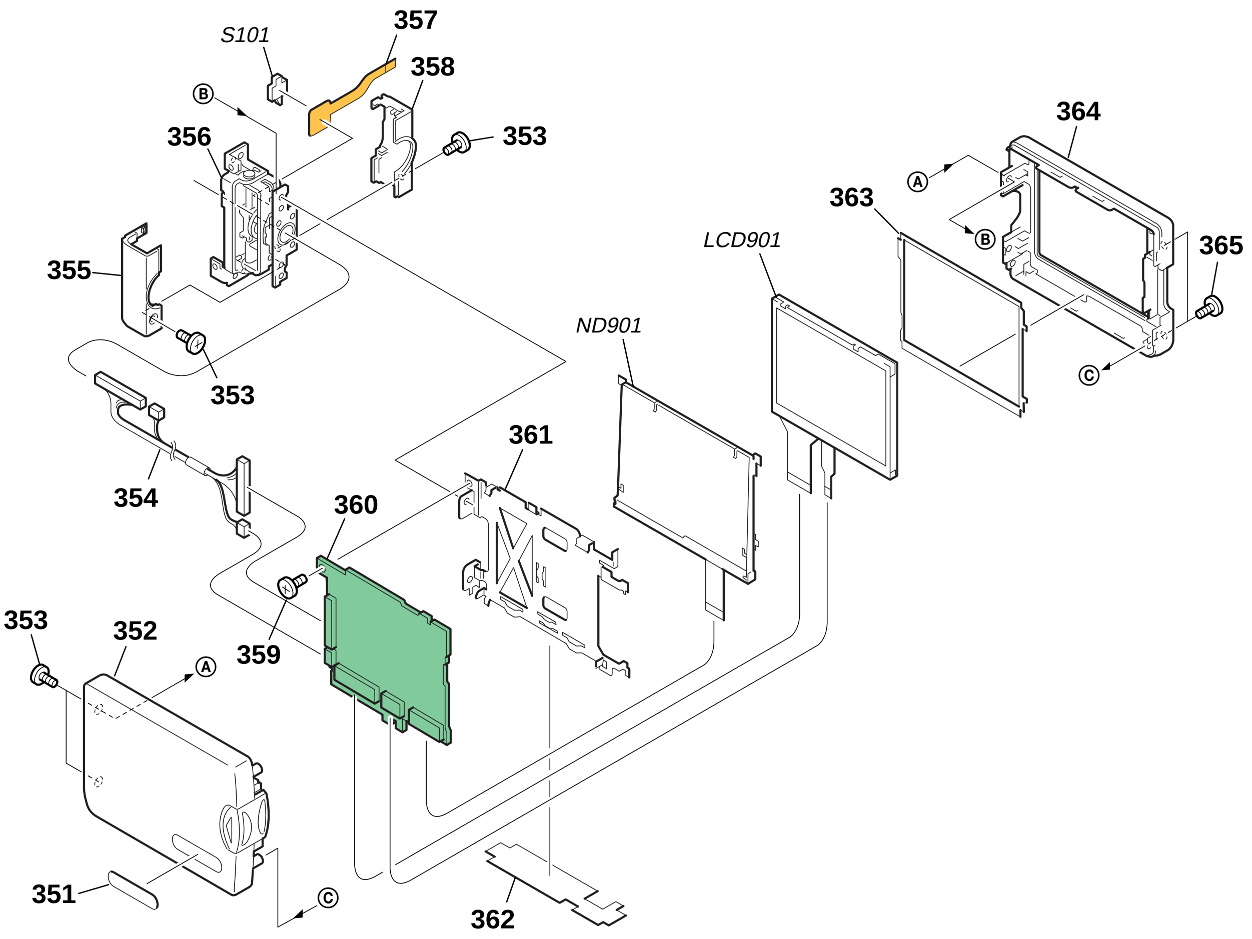
☛ : BT5201 (Lithium battery) CK-129 board on the mount position. (See page 4-77)

CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

Ref. No.	Part No.	Description	Remarks
301	3-713-791-51	SCREW (M1.7X3.5), TAPPING, P2	
302	X-3953-097-1	RETAINER ASSY, SPEAKER	
303	1-687-543-11	FP-618 FLEXIBLE BOARD	
304	A-7013-534-A	CK-129 BOARD, COMPLETE	
305	X-3953-095-2	CABINET (R) ASSY	
306	3-959-978-02	CUSHION, PANEL	
307	1-477-741-11	SWITCH BLOCK, CONTROL (CF-CX4000)	
308	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
309	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
310	3-941-343-21	TAPE (A)	
SP901	1-825-260-21	LOUD SPEAKER (1.6CM)	

5-1-8. LCD SECTION

ns : not supplied

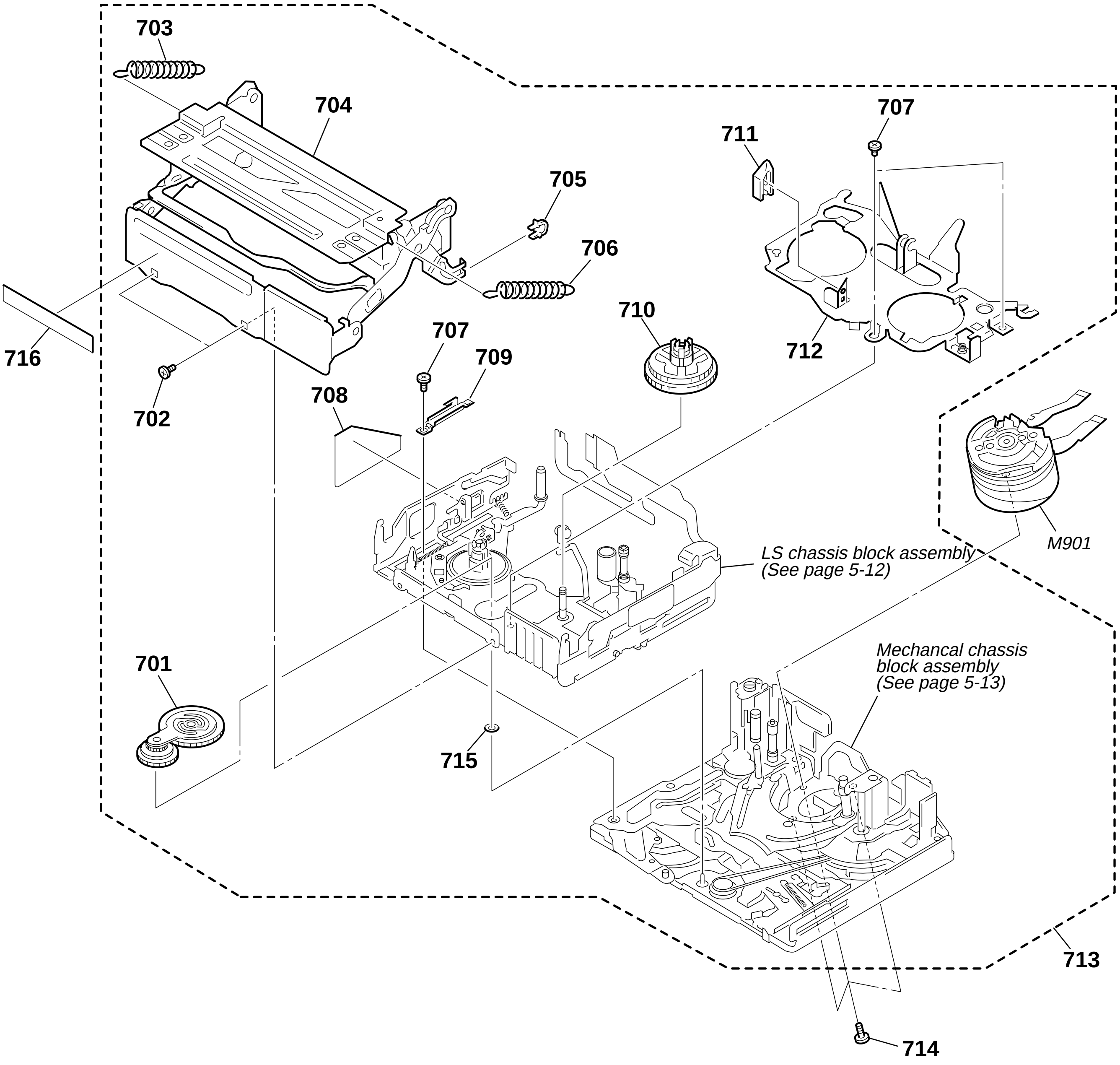


Ref. No.	Part No.	Description	Remarks
351	3-080-441-01	EMBLEM, P	
352	X-3953-103-1	CABINET (C) ASSY, P	
353	3-989-735-81	SCREW (M1.7), LOCK ACE, P2	
354	1-962-081-11	HARNESS (PV-140)	
355	3-080-387-01	COVER (C) (40), HINGE	
356	X-3953-107-2	HINGE (40) ASSY	
357	1-687-550-11	FP-626 FLEXIBLE BOARD	
358	3-080-496-01	COVER (M) (40), HINGE	
359	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
360	A-7013-528-A	PD-188 BOARD, COMPLETE	
361	3-080-498-01	FRAME (40), PANEL	
362	3-080-499-01	SHEET (40), INSULATING, LCD	
363	3-080-497-01	CUSHION (T), LCD	
364	X-3953-106-1	CABINET (M) (40) ASSY, P	
365	3-713-791-11	SCREW (M1.7X5), TAPPING, P2	
LCD901	8-753-052-10	ACX307AKM-1	
⚠ND901	1-477-755-11	BLOCK LIGHT GUIDE PLATE (2.5)	
S101	1-771-039-31	SWITCH, PUSH (PANEL REVERSE)	

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

5. REPAIR PARTS LIST

5-1-9. OVERALL (MECHANISM DECK-Z100)


703
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710
712
716
707
709
702
708
M901
LS chassis block assembly
(See page 5-12)
701
Mechancal chassis
block assembly
(See page 5-13)
715
713
714

Ref. No.	Part No.	Description	Remarks
701	X-3952-938-3	GEAR ASSY, GOOSENECK	
702	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD	
703	3-079-206-02	SPRING (POP UP S), TXTENSION	
704	X-3952-939-3	COMPARTMENT ASSY, CASSETTE	
705	3-079-367-02	DAMPER, CASSETTE COMPARTMENT	
706	3-079-215-02	SPRING (POP UP T), EXTENSION	
707	3-703-816-15	SCREW (M1.4), SPECIAL HEAD	
708	3-080-545-01	COVER, SENSOR S	

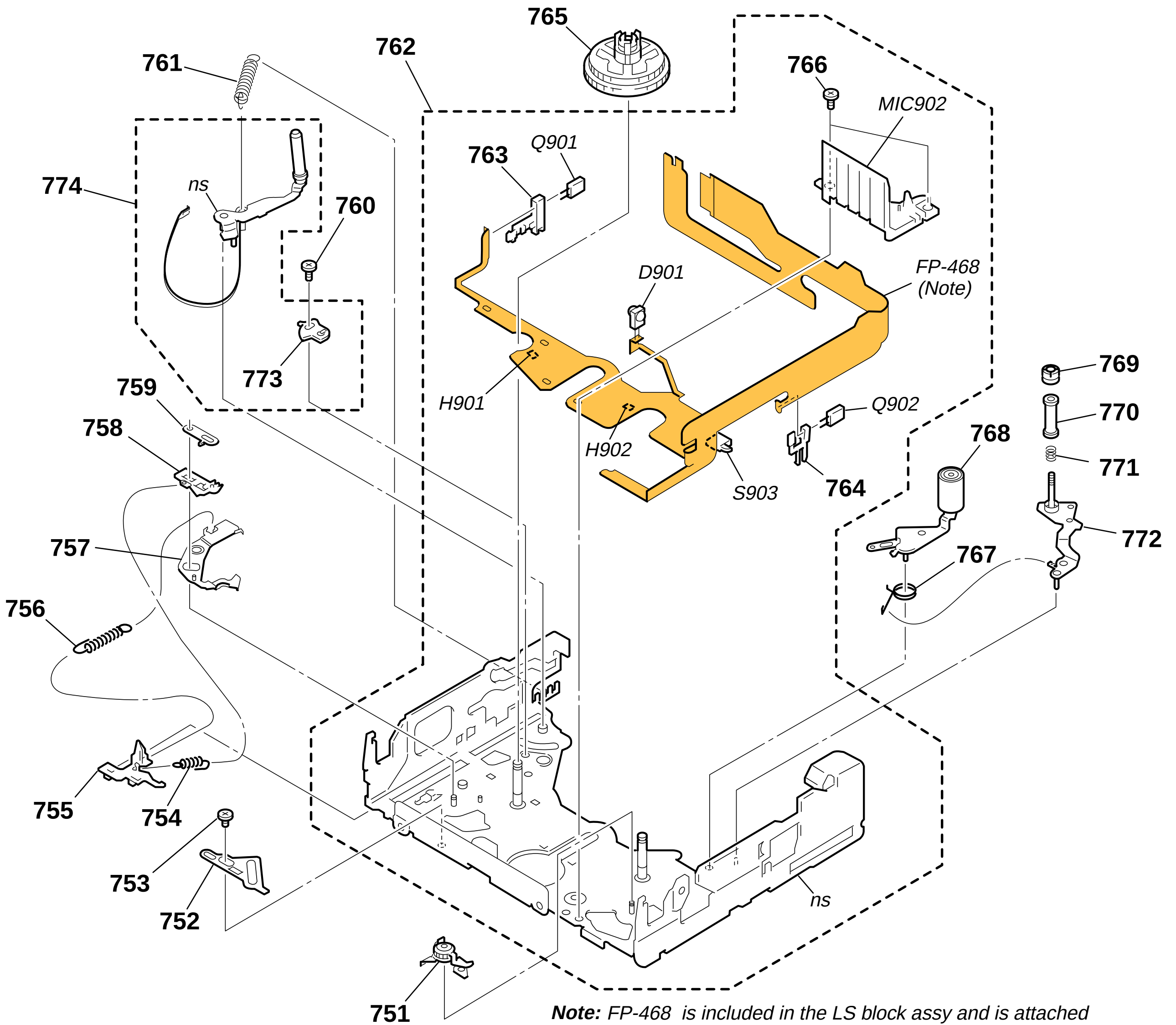
Ref. No.	Part No.	Description	Remarks
709	3-079-364-01	RETAINER, LS GUIDE	
710	X-3952-937-1	TABLE ASSY, T REEL	
711	3-079-366-01	RELEASE, REEL LOCK	
712	X-3953-257-1	PLATE ASSY,RETAINER	
713	A-7095-393-A	MD (Z100) SUB ASSY	
714	3-079-741-02	SCREW,DRUM FIXING	
715	3-748-682-01	WASHER, T	
716	3-081-221-01	LABEL (Z), LS	
M901	A-7048-981-A	DRUM (DEH-30A-R) (SERVICE)	

COVER

5. REPAIR PARTS LIST

5-1-10. LS CHASSIS BLOCK ASSEMBLY

ns : not supplied



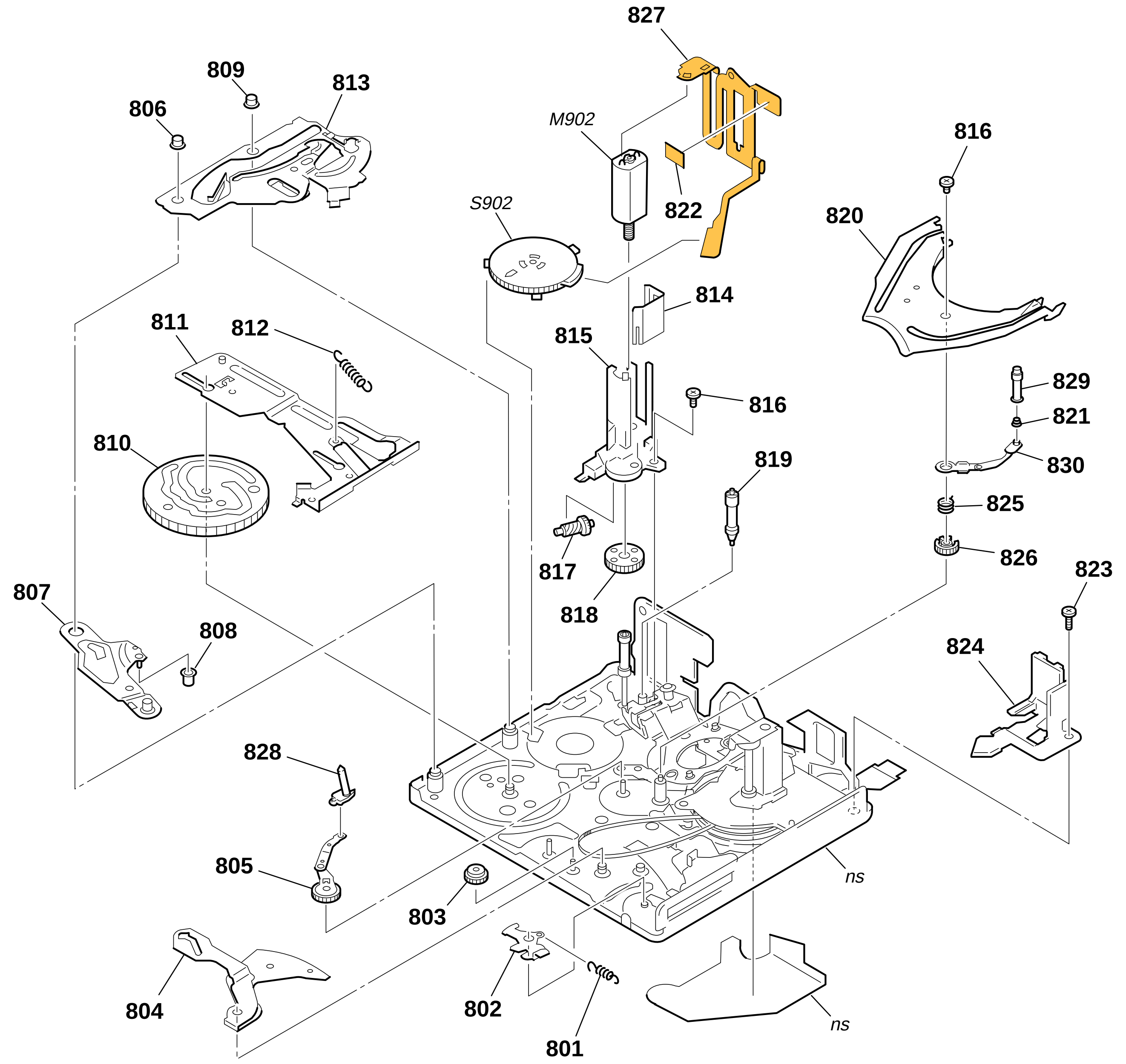
Note: *FP-468 is included in the LS block assy and is attached to chassis by hot-press. because installation of FP-468 requires a very high accuracy, FP-468 is hot supplied as an independent service parts.*

Ref. No.	Part No.	Description	Remarks
751	A-7095-402-B	BRAKE (T) BLOCK ASSY	
752	3-079-241-01	PLATE, LS CAM	
753	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD	
754	3-079-246-01	SPRING(RELEASE RACK),EXTENSION	
755	3-079-248-01	POSITIONING(S), CASSETTE	
756	3-079-244-01	SPRING (ULE), EXTENSION	
757	X-3952-932-2	BRAKE ASSY, ULE	
758	3-079-245-01	RACK (S), RELEASE	
759	3-079-247-01	BRAKE (S)	
760	3-059-090-11	SCREW (M1.4X2.5), SPECIAL HEAD	
761	3-079-242-01	SPRING, TENSION (TENSION REGULATOR)	
762	A-7095-401-A	LS BLOCK ASSY	
763	3-079-267-01	HOLDER (S), SENSOR	
764	3-079-268-01	HOLDER (T), SENSOR	
765	X-3952-936-2	TABLE ASSY, S REEL	
766	3-703-816-15	SCREW (M1.4), SPECIAL HEAD	
767	3-079-243-02	SPRING (PINCH RETURN), TORSION	
768	X-3952-934-1	ARM ASSY, PINCH	
769	3-052-062-02	NUT, TG7	
770	3-079-219-02	TG7	
771	3-081-591-01	SPRING, COMPRESSION (TG7)	
772	X-3952-935-3	ARM ASSY, TG7	
773	3-079-237-01	ADJUSTOR, BAND	
774	A-7095-403-B	TG2 ARM BLOCK ASSY	
D901	6-500-652-01	DIODE GL453SE0000F (TAPE LED)	
H901	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (S REEL)	
H902	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (T REEL)	
MIC902	1-817-175-12	PIN, CONNECTOR (WITH DETECTION SWITCH)	
S903	1-529-566-51	SWITCH, PUSH (1 KEY) (C.C. DOWN)	
Q901	6-550-402-01	TRANSISTOR PT4850FE000F (TAPE END)	
Q902	6-550-402-01	TRANSISTOR PT4850FE000F (TAPE TOP)	

5. REPAIR PARTS LIST

5-1-11. MECHANICAL CHASSIS BLOCK ASSEMBLY

ns : not supplied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Ref. No.	Part No.	Description	Remarks
801	3-079-314-01	SPRING (EJ), EXTENSION	
802	3-079-327-01	ARM, EJ	
803	3-079-323-02	GEAR, CONVERSION	
804	3-079-324-01	ARM, GL DRIVING	
805	X-3952-928-1	GL (S) ASSY	
806	3-079-315-01	ROLLER (S1), LS GUIDE	
807	X-3952-925-2	ARM ASSY, LS	
808	3-079-320-01	ROLLER, LS	
809	3-079-316-01	ROLLER (S2), LS GUIDE	
810	3-079-319-01	GEAR, CAM	
811	X-3952-941-3	SLIDER ASSY, M	
812	3-079-321-02	SPRING (PINCH), EXTENSION	
813	X-3952-940-2	PLATE ASSY, TG2 CAM	
814	3-079-312-01	SHIELD, MOTOR	
815	3-079-307-01	HOLDER, MOTOR	
816	3-703-816-15	SCREW (M1.4), SPECIAL HEAD	
817	3-079-308-01	SHAFT, WORM	
818	3-079-309-01	GEAR, DECELERATION	
819	X-3952-942-3	ROLLER ASSY, TG3	
820	3-079-325-01	RAIL, GUIDE	
821	3-079-295-02	SPRING, TG5	
822	1-677-049-11	FP-228 FLEXIBLE BOARD (DEW SENSOR)	
823	3-079-328-01	SCREW ,SPECIAL (EG GRIP)	
824	3-079-326-02	SUPPORT, TG7	
825	3-079-301-01	SPRING (GLT), TORSION	
826	3-079-298-01	GEAR (T), GL	
827	1-686-798-11	FP-467 FLEXIBLE BOARD	
828	X-3952-927-2	COASTER (S) ASSY	
829	X-3952-930-4	ROLLER ASSY, TG5	
830	X-3952-929-3	COASTER (T) ASSY	
M902	A-7095-396-A	MOTOR BLOCK ASSY, L (LOADING)	
S902	1-477-679-11	ROTARY, ENCODER (SWITCH)	

5-2. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description			
	A-7013-526-A	CD-430 BOARD, COMPLETE			
		************************			
		(IC5001 is not included in this COMPLETE board)			
		< CAPACITOR >			
C5001	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C5002	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C5003	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5004	1-113-987-11	TANTAL. CHIP	4.7uF	20%	25V
		< CONNECTOR >			
CN5001	1-691-352-21	CONNECTOR, FFC/FPC (ZIF) 14P			
		< COIL >			
L5001	1-414-406-11	INDUCTOR	220uH		
		< IC >			
IC5001	A-7031-244-A	CCD BLOCK ASSY (CCD IMAGER)(TRV22)			
IC5001	A-7031-276-A	CCD BLOCK ASSY (CCD IMAGER)(TRV22E)			
		< TRANSISTOR >			
Q5001	8-729-117-73	TRANSISTOR	2SC4178-F13F14-T1		
		< RESISTOR >			
R5001	1-216-827-11	METAL CHIP	3.3K	5%	1/16W

Ref. No.	Part No.	Description			
	A-7013-534-A	CK-129 BOARD, COMPLETE			
		**********************			
		< BATTERY >			
BT5201	1-756-128-11	BATTERY, LITHIUM (SECONDARY)			
		< CONNECTOR >			
CN5205	1-778-506-21	PIN, CONNECTOR (PC BOARD) 2P			
CN5207	1-766-866-21	CONNECTOR, FFC/FPC 6P			
CN5208	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P			
CN5209	1-766-336-21	CONNECTOR, FFC/FPC 6P			
CN5210	1-794-376-21	PIN, CONNECTOR 4P			
		< DIODE >			
D5203	8-719-056-85	DIODE UDZSTE-178.2B			
D5205	6-500-289-01	DIODE MAZW082H0LS0			
		< RESISTOR >			
R5201	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5223	1-218-945-11	RES-CHIP	220	5%	1/16W
		< SWITCH >			
S5203	1-771-138-82	SWITCH, KEY BOARD (RESET)			
S5207	1-762-805-21	SWITCH, PUSH (1 KEY) (PANEL CLOSE/OPEN)			

Be sure to read “Precautions upon replacing CCD imager” on page 4-9 when changing the CCD imager.

CAUTION :
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

Ref. No.	Part No.	Description			
	1-687-550-11	FP-626 BOARD, COMPLETE			
		**********************			
S101	1-771-039-31	SWITCH, PUSH (PANEL REVERSE)			

Ref. No.	Part No.	Description			
	A-7013-551-A	JK-242 BOARD, COMPLETE			
		**********************			
		< CONNECTOR >			
CN5301	1-794-962-11	CONNECTOR, SQUARE TYPE(USB 5P) (USB)			
CN5302	1-794-276-11	CONNECTOR, SQUARE TYPE 4P (DV)			
CN5303	1-691-380-21	CONNECTOR, FFC/FPC 16P			
		< DIODE >			
D5302	8-719-062-16	DIODE 01ZA8.2(TPL3)			
D5304	8-719-078-02	DIODE 1SS357(T3SONY1)			
		< FERRITE BEAD >			
FB5301	1-500-444-11	FERRITE	0uH		
FB5302	1-500-444-11	FERRITE	0uH		
		< JACK >			
J5301	1-778-040-11	JACK, SMALL TYPE (AUDIO/VIDEO)			
		< LINE FILTER >			
LF5301	1-419-983-21	INDUCTOR	0uH		
		< RESISTOR >			
R5304	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5305	1-218-979-11	RES-CHIP	150K	5%	1/16W
R5306	1-216-864-11	METAL CHIP	0	5%	1/16W
		< VARISTOR >			
VD5301	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5302	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5303	1-803-974-21	VARISTOR, CHIP	(1608)		

Ref. No.	Part No.	Description			
	A-7013-525-A	LB-085 BOARD, COMPLETE			
		**********************			
		< CAPACITOR >			
C5601	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5602	1-164-505-11	CERAMIC CHIP	2.2uF		16V
		< CONNECTOR >			
CN5601	1-779-334-11	CONNECTOR, FFC/FPC 20P			
CN5602	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P			
		< DIODE >			
D5602	6-500-375-01	DIODE NSCW455T-TC9			
		< IC >			
IC5601	8-759-581-11	IC NJM2125F(TE2)			

Ref. No.	Part No.	Description			
		< TRANSISTOR >			
Q5602	8-759-054-48	TRANSISTOR	UP04601008S0		
		< RESISTOR >			
R5603	1-208-941-11	METAL CHIP	180K	0.5%	1/16W
R5604	1-208-719-11	METAL CHIP	33K	0.5%	1/16W
R5605	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R5606	1-216-839-11	METAL CHIP	33K	5%	1/16W
R5607	1-211-983-11	METAL CHIP	39	0.5%	1/10W

Ref. No.	Part No.	Description			
	A-7013-530-A	MA-421 BOARD, COMPLETE ***********************			
		< CAPACITOR >			
C5404	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C5501	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C5502	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5503	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C5504	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5505	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5506	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5510	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5511	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5512	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5513	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5514	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5516	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5517	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5519	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5520	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5521	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5523	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5528	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C5529	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C5532	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C5535	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C5537	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
		< CONNECTOR >			
CN5401	1-778-507-21	PIN, CONNECTOR (PC BOARD) 4P			
CN5402	1-815-235-11	CONNECTOR, FFC/FPC (ZIF) 37P			
		< DIODE >			
D5401	6-500-506-01	DIODE TLRMV1021(T15SOY,F)			
D5403	6-500-289-01	DIODE MAZW082H0LS0			
D5404	8-719-073-01	DIODE MA111-(K8).S0			
D5405	6-500-512-01	DIODE CL-330IRS-X-TU			
D5407	6-500-506-01	DIODE TLRMV1021(T15SOY,F)			
D5408	8-719-056-85	DIODE UDZSTE-178.2B			
D5409	8-719-056-85	DIODE UDZSTE-178.2B			
D5410	8-719-056-85	DIODE UDZSTE-178.2B			
		< FERRITE BEAD >			
FB5401	1-469-179-21	FERRITE	0uH		
FB5402	1-469-179-21	FERRITE	0uH		
FB5403	1-469-179-21	FERRITE	0uH		
FB5404	1-469-179-21	FERRITE	0uH		
FB5405	1-500-444-11	FERRITE	0uH		
FB5406	1-500-444-11	FERRITE	0uH		
FB5407	1-500-444-11	FERRITE	0uH		
FB5408	1-500-444-11	FERRITE	0uH		
FB5409	1-500-444-11	FERRITE	0uH		
FB5410	1-500-444-11	FERRITE	0uH		
FB5411	1-500-444-11	FERRITE	0uH		
		< IC >			
IC5401	6-600-047-01	IC RS-670			
IC5501	8-759-679-11	IC BH7870AKV-E2			
		< JACK >			
J5401	1-691-737-41	JACK (SMALL TYPE) (MIC(PLUG IN POWER)			
J5402	1-793-995-11	JACK, SUPER SMALL TYPE (◐ LANC)			
J5404	1-694-688-11	TERMINAL, S (S VIDEO)			
J5405	1-569-950-41	JACK (SMALL TYPE) (∩ (HEADPHONES))			
		< COIL >			
L5501	1-469-528-91	INDUCTOR	100uH		
		< RESISTOR >			
R5401	1-216-864-11	METAL CHIP	0	5%	1/16W
R5402	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R5403	1-216-864-11	METAL CHIP	0	5%	1/16W
R5405	1-216-805-11	METAL CHIP	47	5%	1/16W
R5406	1-218-956-11	RES-CHIP	1.8K	5%	1/16W
R5407	1-216-864-11	METAL CHIP	0	5%	1/16W
R5408	1-216-864-11	METAL CHIP	0	5%	1/16W
R5501	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5502	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R5503	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5504	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R5505	1-218-990-11	SHORT CHIP	0		
R5506	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5507	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5508	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R5509	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R5510	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5511	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5515	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5517	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5520	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R5521	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R5522	1-218-990-11	SHORT CHIP	0		
R5524	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5525	1-218-966-11	RES-CHIP	12K	5%	1/16W
R5527	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R5530	1-218-990-11	SHORT CHIP	0		
R5531	1-218-990-11	SHORT CHIP	0		
R5532	1-218-990-11	SHORT CHIP	0		
R5533	1-218-990-11	SHORT CHIP	0		
R5534	1-218-990-11	SHORT CHIP	0		
		< SENSOR >			
SE5401	1-476-807-31	SENSOR, ANGULAR VELOCITY (YAW)			
SE5402	1-476-807-41	SENSOR, ANGULAR VELOCITY (PITCH)			

Ref. No.	Part No.	Description			
		< VARISTOR >			
VD5401	1-801-862-11	VARISTOR, CHIP	(1608)		
VD5402	1-801-862-11	VARISTOR, CHIP	(1608)		
VD5403	1-801-923-11	VARISTOR, CHIP	(1608)		
VD5407	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5408	1-803-974-21	VARISTOR, CHIP	(1608)		
VD5409	1-801-862-11	VARISTOR, CHIP	(1608)		
VD5410	1-801-862-11	VARISTOR, CHIP	(1608)		

Ref. No.	Part No.	Description			
	A-7013-528-A	PD-188 BOARD, COMPLETE ************************			
		< CAPACITOR >			
C6001	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C6002	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C6003	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6004	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6005	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6007	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6008	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6009	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C6010	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C6011	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C6012	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6013	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C6014	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C6015	1-164-870-11	CERAMIC CHIP	68PF	5%	50V
C6016	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C6017	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C6018	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C6019	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C6022	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6023	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C6024	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C6101	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C6103	1-164-657-11	CERAMIC CHIP	0.015uF	10%	50V
C6104	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
⚠C6105	1-100-371-11	CERAMIC CHIP	12PF	5%	3.15KV
		< CONNECTOR >			
CN6001	1-815-031-11	CONNECTOR, FFC/FPC (ZIF) 24P			
CN6101	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
CN6201	1-794-997-11	PIN, CONNECTOR 20P			
CN6202	1-794-376-21	PIN, CONNECTOR 4P			
CN6203	1-691-344-11	CONNECTOR, FFC/FPC (ZIF) 6P			
		< DIODE >			
D6001	8-719-084-47	DIODE	1SV290(TPL3)		
D6003	8-719-050-42	DIODE	RD3.3UM-T1B		
D6103	8-719-073-01	DIODE	MA111-(K8).S0		
D6201	8-719-056-85	DIODE	UDZSTE-178.2B		
		< FERRITE BEAD >			
FB6001	1-414-760-21	FERRITE	0uH		
FB6002	1-414-760-21	FERRITE	0uH		

Ref. No.	Part No.	Description			
		< IC >			
IC6001	8-752-109-08	IC	CXA3289BR-T4		
IC6002	8-752-407-33	IC	CXD3512R-T4		
IC6101	8-759-564-49	IC	TC7W53FU(TE12R)		
IC6102	8-759-075-70	IC	TA75S393F-TE85R		
		< COIL >			
L6001	1-469-525-91	INDUCTOR	10uH		
L6002	1-412-949-21	INDUCTOR	6.8uH		
L6101	1-428-878-11	INDUCTOR	82uH		
		< TRANSISTOR >			
Q6001	8-759-054-48	TRANSISTOR	UP04601008S0		
Q6002	8-759-054-48	TRANSISTOR	UP04601008S0		
Q6003	6-550-234-01	TRANSISTOR	UNR32A300LS0		
Q6004	6-550-232-01	TRANSISTOR	2SA2029T2LQ/R		
Q6005	6-550-232-01	TRANSISTOR	2SA2029T2LQ/R		
Q6101	6-550-234-01	TRANSISTOR	UNR32A300LS0		
Q6102	6-550-065-01	TRANSISTOR	CPH5504-TL-E		
		< RESISTOR >			
R6001	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R6002	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6003	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6004	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6006	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R6007	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6008	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6009	1-218-975-11	RES-CHIP	68K	5%	1/16W
R6010	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6011	1-218-975-11	RES-CHIP	68K	5%	1/16W
R6012	1-218-989-11	RES-CHIP	1M	5%	1/16W
R6013	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6014	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6015	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6016	1-218-953-11	RES-CHIP	1K	5%	1/16W
R6017	1-218-973-11	RES-CHIP	47K	5%	1/16W
R6018	1-218-966-11	RES-CHIP	12K	5%	1/16W
R6019	1-218-989-11	RES-CHIP	1M	5%	1/16W
R6020	1-218-975-11	RES-CHIP	68K	5%	1/16W
R6021	1-218-979-11	RES-CHIP	150K	5%	1/16W
R6022	1-208-957-11	RES-CHIP	820K	5%	1/16W
R6023	1-218-990-11	SHORT CHIP	0		
R6103	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6104	1-218-980-11	RES-CHIP	180K	5%	1/16W
R6105	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6106	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R6107	1-218-965-11	RES-CHIP	10K	5%	1/16W
R6108	1-218-969-11	RES-CHIP	22K	5%	1/16W
R6110	1-218-949-11	RES-CHIP	470	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB6001	1-234-372-21	RES, NETWORK 100X4		(1005)	

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			
		< TRANSFORMER >			
⚠T6101	1-435-786-31	TRANSFORMER, INVERTER			
	A-7013-554-A	VA-118 BOARD, COMPLETE			
		**********************			
		< CAPACITOR >			
C4001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4003	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4005	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4109	1-119-749-11	TANTAL. CHIP	33uF	20%	4V
C4110	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4111	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C4112	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C4113	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C4114	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4115	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4116	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C4117	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4201	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4203	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4204	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4205	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4206	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4207	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C4208	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4209	1-113-986-11	TANTAL. CHIP	2.2uF	20%	25V
C4210	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4211	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4212	1-164-876-11	CERAMIC CHIP	120PF	5%	50V
C4213	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4214	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4215	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4216	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V
C4217	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C4301	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4302	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4303	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C4304	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C4305	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4306	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4307	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4308	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4309	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4310	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4311	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4312	1-137-710-11	CERAMIC CHIP	10uF	20%	6.3V
C4314	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4501	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4502	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4503	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4504	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C4505	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4506	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4507	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4508	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4509	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4510	1-164-934-11	CERAMIC CHIP	330PF	10%	50V
C4511	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4512	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C4513	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4514	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4515	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C4516	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4517	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4518	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4520	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C4521	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4522	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4523	1-125-838-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4526	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4527	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C4528	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C4529	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4530	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4531	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4532	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4533	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4535	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4536	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4537	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C4538	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C4539	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C4540	1-125-827-91	CERAMIC CHIP	1uF	10%	25V
C4541	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4542	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4543	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4544	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4545	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4546	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4547	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4548	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C4549	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4550	1-113-988-11	TANTAL. CHIP	68uF	20%	4V
C4551	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4553	1-117-720-11	CERAMIC CHIP	4.7uF		10V
C4554	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4555	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C4557	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C4558	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4559	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C4560	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4562	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C4601	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4602	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4603	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4604	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C4605	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C4606	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C4607	1-109-982-11	CERAMIC CHIP	1uF	10%	10V

Note :	Note :
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Ref. No.	Part No.	Description
		< CONNECTOR >
CN4001	1-691-374-11	CONNECTOR, FFC/FPC 10P
CN4002	1-766-613-21	CONNECTOR, FFC/FPC 36P
CN4003	1-794-998-31	PIN, CONNECTOR 20P
CN4004	1-774-603-21	CONNECTOR, BOARD TO BOARD 100P
CN4005	1-691-354-21	CONNECTOR, FFC/FPC (ZIF) 16P
CN4201	1-766-350-21	CONNECTOR, FFC/FPC 20P
* CN4602	1-580-056-21	PIN, CONNECTOR (SMD) 3P
* CN4603	1-580-056-21	PIN, CONNECTOR (SMD) 3P
		< DIODE >
D4001	6-500-289-01	DIODE MAZW082H0LS0
D4002	6-500-289-01	DIODE MAZW082H0LS0
D4101	8-719-073-01	DIODE MA111-(K8).S0
D4102	8-719-056-85	DIODE UDZSTE-178.2B
D4103	8-719-056-85	DIODE UDZSTE-178.2B
D4201	8-719-084-47	DIODE 1SV290(TPL3)
D4502	8-719-421-27	DIODE MA728-(K8).S0
D4503	6-500-314-01	DIODE DAN222MT2L
D4504	8-719-074-08	DIODE MA4ZD03001S0
D4507	8-719-074-08	DIODE MA4ZD03001S0
D4601	6-500-289-01	DIODE MAZW082H0LS0
D4602	8-719-081-19	DIODE 1SS383(T5RSONY1)
D4603	8-719-056-23	DIODE 1SS387-TPL3
D4604	8-719-056-23	DIODE 1SS387-TPL3
		< FUSE >
⚠F4601	1-576-406-21	FUSE 1.4A 32V
⚠F4602	1-576-406-21	FUSE 1.4A 32V
⚠F4603	1-576-406-21	FUSE 1.4A 32V
⚠F4604	1-576-406-21	FUSE 1.4A 32V
⚠F4605	1-576-406-21	FUSE 1.4A 32V
		< FERRITE BEAD >
FB4201	1-469-676-22	FERRITE 0uH
FB4202	1-500-329-21	FERRITE 0uH
		< IC >
IC4101	6-803-026-01	IC MB89097PFV-G-155-BND-ER-E1
IC4201	8-752-109-08	IC CXA3289BR-T4
IC4202	8-752-405-57	IC CXD3501AR-T4
IC4301	8-759-489-19	IC uPC6756GR-8JG-E2
IC4502	6-703-429-01	IC MB44A120APFV-G-BND-ERE1
IC4504	6-703-227-01	IC TK11131CSCL-G
		< COIL >
L4201	1-469-525-91	INDUCTOR 10uH
L4202	1-469-891-21	INDUCTOR 6.8uH
L4301	1-469-570-21	INDUCTOR 10uH
L4501	1-416-670-11	INDUCTOR 33uH
L4502	1-416-669-11	INDUCTOR 22uH
L4503	1-416-669-11	INDUCTOR 22uH
L4504	1-416-669-11	INDUCTOR 22uH
L4505	1-416-670-11	INDUCTOR 33uH
L4506	1-416-669-11	INDUCTOR 22uH
L4507	1-416-670-11	INDUCTOR 33uH
L4508	1-469-524-91	INDUCTOR 4.7uH
L4509	1-469-524-91	INDUCTOR 4.7uH
L4510	1-469-757-21	INDUCTOR 10uH
L4511	1-469-524-91	INDUCTOR 4.7uH
L4512	1-469-524-91	INDUCTOR 4.7uH
L4513	1-469-524-91	INDUCTOR 4.7uH
L4514	1-469-524-91	INDUCTOR 4.7uH
L4515	1-469-526-91	INDUCTOR 22uH
L4516	1-469-524-91	INDUCTOR 4.7uH
L4517	1-469-524-91	INDUCTOR 4.7uH
L4518	1-469-524-91	INDUCTOR 4.7uH
L4519	1-469-524-91	INDUCTOR 4.7uH
L4520	1-469-524-91	INDUCTOR 4.7uH
L4521	1-469-524-91	INDUCTOR 4.7uH
L4601	1-412-056-11	INDUCTOR 4.7uH
		< LINE FILTER >
LF4602	1-456-391-21	INDUCTOR 0uH
		< TRANSISTOR >
Q4001	6-550-102-01	TRANSISTOR 2SC5663T2L
Q4002	6-550-235-01	TRANSISTOR UNR32A500LS0
Q4003	6-550-238-01	TRANSISTOR UNR31A100LS0
Q4004	8-729-053-57	TRANSISTOR RN1902FE(TPLR3)
Q4005	8-729-054-44	TRANSISTOR RN2902FE(TPLR3)
Q4101	8-729-041-43	TRANSISTOR HN1L02FU(TE85R)
Q4504	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4505	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4506	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4507	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4508	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4509	6-550-405-01	TRANSISTOR CPH5815-TL-E
Q4510	6-550-560-01	TRANSISTOR CPH5819-TL-E
Q4513	6-550-237-01	TRANSISTOR 2SC5658T2LQ/R
Q4514	8-729-101-07	TRANSISTOR 2SB798-T1-DLDK
Q4515	6-550-237-01	TRANSISTOR 2SC584600LS0
Q4516	6-550-232-01	TRANSISTOR 2SA207800LS0
Q4517	6-550-232-01	TRANSISTOR 2SA207800LS0
Q4518	8-759-054-50	TRANSISTOR UP04501008S0
Q4519	8-759-054-50	TRANSISTOR UP04501008S0
Q4520	6-550-237-01	TRANSISTOR 2SC584600LS0
Q4521	8-729-054-49	TRANSISTOR UP04401008S0
Q4524	8-729-216-22	TRANSISTOR 2SA1162-YG-TE85L
Q4525	8-759-054-50	TRANSISTOR UP04501008S0
Q4526	6-550-406-01	TRANSISTOR MCH3335-S-TL-E
Q4601	8-729-047-68	TRANSISTOR SSM3K03FE(TPL3)
Q4602	6-550-404-01	TRANSISTOR UPA1858GR-9JG-E2-A
Q4603	8-729-101-07	TRANSISTOR 2SB798-T1-DLDK
Q4604	6-550-234-01	TRANSISTOR UNR32A300LS0
Q4608	8-729-056-19	TRANSISTOR TPC6101(TE85R)
Q4610	6-550-234-01	TRANSISTOR UNR32A300LS0

Note :	Note :
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Ref. No.	Part No.	Description			
		< RESISTOR >			
R4002	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4004	1-216-009-91	RES-CHIP	22	5%	1/10W
R4005	1-216-009-91	RES-CHIP	22	5%	1/10W
R4006	1-218-939-11	RES-CHIP	68	5%	1/16W
R4007	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R4008	1-218-990-11	SHORT CHIP	0		
R4009	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4103	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4104	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4105	1-218-990-11	SHORT CHIP	0		
R4106	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4109	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4110	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4111	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4112	1-218-989-11	METAL CHIP	1M	0.5%	1/16W
R4113	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4114	1-219-570-11	METAL CHIP	10M	5%	1/10W
R4115	1-218-985-11	METAL CHIP	470K	0.5%	1/16W
R4116	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4117	1-218-990-11	SHORT CHIP	0		
R4118	1-216-857-11	METAL CHIP	1M	5%	1/16W
R4119	1-218-949-11	RES-CHIP	470	5%	1/16W
R4120	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4121	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4122	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4123	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4124	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4201	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4202	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4204	1-218-990-11	SHORT CHIP	0		
R4206	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R4207	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4208	1-218-975-11	RES-CHIP	68K	5%	1/16W
R4209	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4210	1-218-975-11	RES-CHIP	68K	5%	1/16W
R4211	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4212	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4213	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4214	1-218-989-11	METAL CHIP	1M	0.5%	1/16W
R4215	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4301	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4302	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4303	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4304	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4501	1-220-200-81	RES-CHIP	30K	5%	1/16W
R4502	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4503	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4504	1-218-990-11	SHORT CHIP	0		
R4505	1-218-990-11	SHORT CHIP	0		
R4506	1-218-990-11	SHORT CHIP	0		
R4507	1-218-990-11	SHORT CHIP	0		
R4508	1-218-990-11	SHORT CHIP	0		
R4509	1-218-990-11	SHORT CHIP	0		
R4510	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4511	1-218-970-11	RES-CHIP	27K	5%	1/16W
R4512	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4513	1-218-971-11	RES-CHIP	33K	5%	1/16W
R4514	1-218-972-11	RES-CHIP	39K	5%	1/16W
R4515	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4516	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4517	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R4518	1-208-910-11	RES-CHIP	9.1K	5%	1/16W
R4519	1-218-990-11	SHORT CHIP	0		
R4520	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4522	1-218-990-11	SHORT CHIP	0		
R4523	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4524	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R4525	1-218-990-11	SHORT CHIP	0		
R4526	1-218-935-11	RES-CHIP	33	5%	1/16W
R4537	1-218-966-11	RES-CHIP	12K	5%	1/16W
R4538	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4539	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4540	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4541	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4543	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4545	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4546	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4547	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4549	1-218-969-11	RES-CHIP	22K	5%	1/16W
R4550	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R4551	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4552	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4553	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4554	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R4555	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4556	1-218-967-11	RES-CHIP	15K	5%	1/16W
R4557	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R4561	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4562	1-218-949-11	RES-CHIP	470	5%	1/16W
R4563	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R4564	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R4567	1-218-990-11	SHORT CHIP	0		
R4601	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4604	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4605	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4607	1-216-797-11	METAL CHIP	10	5%	1/16W
R4608	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R4609	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R4611	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4614	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4615	1-218-965-11	RES-CHIP	10K	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB4101	1-234-378-21	RES, NETWORK 10KX4		(1005)	
RB4104	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4105	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4106	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4107	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4108	1-234-375-21	RES, NETWORK 1KX4		(1005)	
RB4109	1-234-381-21	RES, NETWORK 100KX4		(1005)	

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

VA-118 **VC-312**

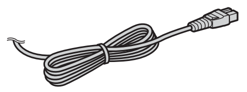
Ref. No.	Part No.	Description	
RB4201	1-234-372-21	RES, NETWORK 100X4	(1005)
RB4301	1-234-379-21	RES, NETWORK 22KX4	(1005)
		< VIBRATOR >	
X4101	1-760-458-21	VIBRATOR, CRYSTAL (32.768KHZ)	
X4102	1-795-244-11	VIBRATOR, CERAMIC (10MHz)	

Ref. No.	Part No.	Description
	A-7078-607-A	VC-312 BOARD, COMPLETE (SERVICE) **********************

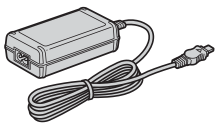
Electrical parts list of the VC-312 board are not shown.
Pages from 5-21 to 5-26 are not shown.

Checking supplied accessories.

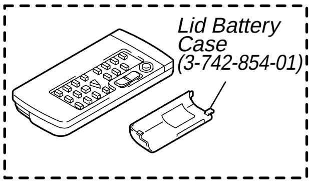
Make sure that the following accessories are supplied with your camcorder.



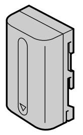
Power cord (Main lead)(1)
(AUS model)
⚠ 1-696-819-21
Power cord (Main lead)(1)
(AEP, E, EE, NE model)
⚠ 1-769-608-11
Power cord (Main lead)(1)
(CH model)
⚠ 1-782-476-11
Power cord (Main lead)(1)
(UK, HK model)
⚠ 1-783-374-11
Power cord (Main lead)(1)
(US, CND model)
⚠ 1-790-107-22
Power cord (Main lead)(1)
(JE model)
⚠ 1-790-732-11
Power cord (Main lead)(1)
(KR model)
⚠ 1-776-985-11



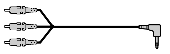
AC power adaptor (1) (AC-L15A)
(US, CND, AEP, UK, E, HK, AUS, EE, NE, KR, JE, BR model)
⚠ 1-477-533-31
AC power adaptor (1) (AC-L15A)
(CH model)
⚠ 1-477-533-41



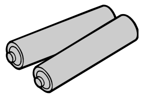
Wireless Remote Commander (1)
(RMT-814)
1-475-141-61



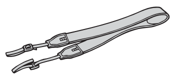
NP-FM30 battery pack (1)
⚠ A-7096-387-A
(US, CND model)
⚠ A-7096-388-B
(Except US, CND model)



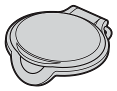
A/V connecting cable
(1.5m) (1)
1-824-097-11



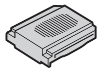
R6 (size AA) batteries for the Remote Commander (2)
(not supplied)



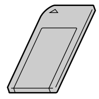
Shoulder strap (1)
3-987-015-01



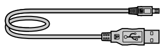
Lens cap (1)
X-3953-088-1



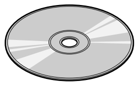
Shoe cover (1)
3-080-571-01



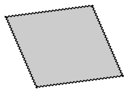
"Memory Stick" (1)
(MSA-8A)
A-7024-735-A



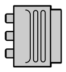
USB cable (1)
1-823-931-11



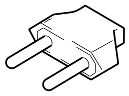
CD-ROM
(SPVD-010 USB Driver) (1)
(TRV22:E, HK, BR, JE, KR/ TRV22E only)
3-078-942-01
CD-ROM
(SPVD-010(I) USB Driver) (1)
(TRV22:US,CND model)
3-078-943-01



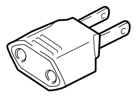
Cleaning cloth (1)
3-073-861-01



21-pin adaptor (1)
(AEP, UK, EE, NE model)
1-770-783-21



2-pin conversion adaptor (1)
(TRV22:JE/TRV22E:JE only)
1-569-007-12



2-pin conversion adaptor (1)
(TRV22:E,HK/ TRV22E:E,HK only)
1-569-008-12

- Abbreviation

CND : Canadian model
EE : East European model
NE : North European model
HK : Hong Kong model
AUS : Australian model
CH : Chinese model
JE : Tourist model
KR : Korea model
BR : Brazlian model

Other accessories

3-080-368-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH) (TRV22E:AEP, UK, AUS, CH, E, HK, JE)
3-080-368-21	MANUAL, INSTRUCTION (SPANISH/PORTUGUESE) (TRV22E:AEP)
3-080-368-31	MANUAL, INSTRUCTION (ITALIAEN/GREEK)(TRV22E:AEP)
3-080-368-41	MANUAL, INSTRUCTION (GERMAN/DUTCH)(TRV22E:AEP)
3-080-368-51	MANUAL, INSTRUCTION (SWEDISH/RUSSIAN) (TRV22E:NE, E, JE)
3-080-368-61	MANUAL, INSTRUCTION (DANISH/FINNISH)(TRV22E:NE)
3-080-368-71	MANUAL, INSTRUCTION (ARABIC/PERSIAN)(TRV22E:E)
3-080-368-81	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV22E:HK)
3-080-368-91	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE) (TRV22E:E, CH, JE)
3-080-369-11	MANUAL, INSTRUCTION (ENGLISH) (TRV22:US, CND, E, HK, JE)
3-080-369-21	MANUAL, INSTRUCTION (FRENCH) (TRV22:CND)
3-080-369-31	MANUAL, INSTRUCTION (SPANISH/PORTUGUESE) (TRV22:E, JE)
3-080-369-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV22:E, HK)
3-080-369-51	MANUAL, INSTRUCTION (KOREAN) (TRV22:JE, KR)
3-080-369-61	MANUAL, INSTRUCTION (ARABIC) (TRV22:E)

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note :** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

9-876-222-31

Sony EMCS Co.

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DCR-TRV22/TRV22E
RMT-814

SONY®

LEVEL 2

SERVICE MANUAL

Ver 1.2 2003. 09

US Model
Canadian Model
Korea Model
Brazilian Model
DCR-TRV22
AEP Model
UK Model
North European Model
East European Model
Chinese Model
Australian Model
DCR-TRV22E
E Model
Hong Kong Model
Tourist Model
DCR-TRV22/TRV22E

SUPPLEMENT-1

File this supplement-1 with the Service Manual.

Subject : Addition of supplied parts

SECTION 5 REPAIR PARTS LIST

5-1. EXPLODED VIEWS

☞ : Added portion.

<table>
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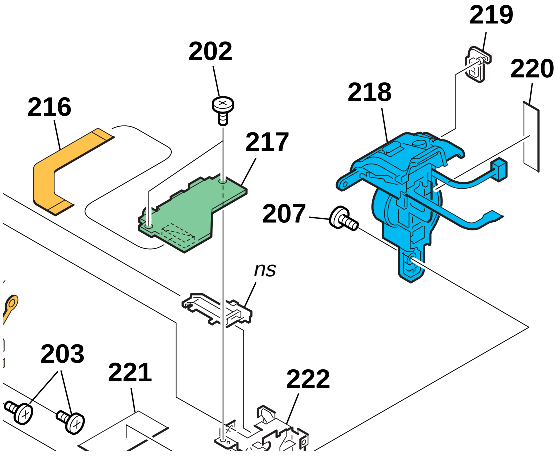
5-1-5. CABINET L SECTION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202
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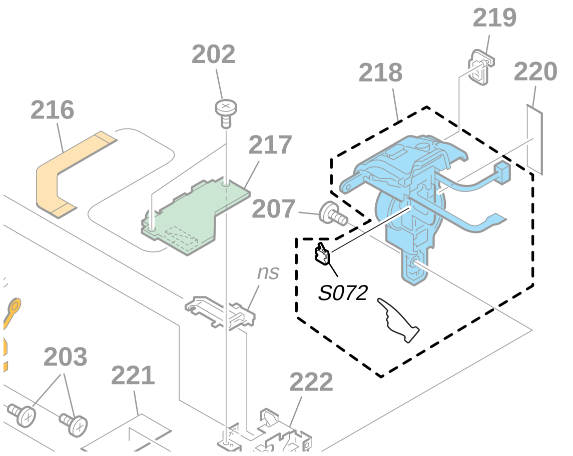
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222

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9-876-222-81

Sony EMCS Co.

Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2003.02	Official Release	—	—
1.1	2003.06	Correction-1	Change of the parts S.M. Correction: Page 2-4, Page 5-11, Page 5-27	Yes
1.2	2003.09	Supplement-1	Addition of supplied parts	No